

An Evaluation of the Courses in Education
of a State Teachers College
by Teachers in Service

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CHAPTER I

NATURE OF THE PROBLEM

INTRODUCTORY STATEMENT

A REVIEW of the literature dealing with the curricula for the education of teachers reveals certain needs and definite criticisms of offerings. Some of these criticisms come directly from the graduates of the normal schools and teachers colleges who are teachers, supervisors, or administrators, working largely in the public school system. Some come from the students in training. As consumers all have a right to speak regarding the effectiveness of their college training. Their opinions should have respectful attention and consideration. Other criticisms come from those officially connected with the institutions as instructors, supervisors, heads of departments, directors of training, deans, or college presidents. In many instances, these individuals are their own most severe critics. However, the type of criticism coming from the faculties of the institutions is not always the same as that coming from the students in college and from the graduates and students in service. The points of view, environments, problems, and experiences of the groups are quite different. A third element, the public itself, ought to be included in any comprehensive study to determine the types of criticism and the needs implied.

In planning a study which is intended to be helpful in the more effective reorganization of a curriculum for the education of teachers, the writer is aware that there is more than one useful approach to the problem. The plan used in this study is to secure the reactions and judgments of teachers in service to a definite list of curriculum content items. Among other approaches of equal value should be mentioned the results of similar research, the opinion of a jury of curriculum experts, the probable social and economic changes, the opinions of the teachers who are conducting the courses of instruction concerned, and

the activity analysis plan. The present study, however, is to be confined largely to the first method, namely, the judgments or reactions of a large group of teachers in service to the curriculum content as they experienced it in their pre-service training period at college, and as it functioned later in their work.

STATEMENT OF THE SIX MAJOR CRITICISMS MADE OF THE TEACHERS COLLEGE CURRICULA

The criticisms and needs pointed out represent the result of typical research and discussion in this field. References will be made to the more representative contributions, but they are not intended to be exhaustive. The letters and numbers after the authors' names refer to the sections of the Bibliography where the full details of the references can be found. In some instances an author and a number are mentioned in more than one connection because his article is pertinent to more than one basic need or criticism. The criticisms are presented in the order in which they are investigated and treated in the study.

1. *Waste of Time through the Duplication or Repetition of Topics in Textbooks or References, in Courses of Instruction, in Related Fields, and in Examinations*

a) *In Basic Textbooks or Reference Readings.* This is one of the most popular and frequently reported types of investigation, probably because the material is more readily available. The duplications reported by such writers as Blue [B 8],* Bolton, [B 9], Corey [B 16], Hyde [B 27], Osburn [B 42], Sangren [B 52], Weeks, Pickens, and Raudebush [B 56], vary from 1 per cent to almost 52 per cent. From three to as many as thirty-nine textbooks were compared. As many as sixty-one duplicated topics were reported by one writer. This amount of repetition raises a presumption in favor of some readjustment. It tends to indicate a waste in time and energy when certain combinations of textbooks are used in courses. No attempt was made to determine the helpful repetition which might be present.

b) *In Courses of Instruction.* The analysis of textbooks reported in paragraph a) may apply to this discussion, but such data are not usually sufficient to give an accurate account of a

* Figures in brackets refer to items in Bibliography, pages 149-156. Letters A and B refer to Parts A and B of the Bibliography.

course. Committee Q of the American Association of University Professors [B 2] states that 74 per cent of replies reported duplications in professional courses. The *Commonwealth Teacher Training Study* [A 15] calls attention in the preface to the wide overlapping and duplication among courses and departments. Other reports by Chadsey [A 11], Conger [B 13], Hyde [B 28], Judson [B 31], Learned and Bagley [A 33], Lockhart [B 37], Monroe [A 37], O'Brien [B 40], Peik [B 44], and Worcester [A 50], [B 58], indicate again the presence of a real problem needing careful consideration. Several writers, among whom are Hyde and Worcester, have done experimental testing both before and after a course was given. They found that the pretests often disclosed considerable knowledge of the course, varying from 20 per cent to 40 per cent, and that some students could even be excused from it. The sources of waste included reference readings, lack of good organizational sequence of courses, a waste of time on platitudes and self-evident truths, and too much time given to the familiar with too little time for the unknown.

c) *In Related Courses, as Special and General Methods.* This is a field deserving more extensive exploration. A study by Franzen [B 22] was based on the analysis of course outlines, lecture notes made by students, and syllabi used by 114 teachers and a number of students in different parts of the country. The special methods courses were grouped under eight divisions so that comparisons could be made with the general methods courses. Considerable duplication of topics was revealed in the comparison made between them. Franzen suggests standards giving the units of instruction with subdivisions for both the special methods and the general methods courses in the teaching of the high school subjects. Similar studies are needed for the elementary level.

d) *In Tests and Examinations.* In reply to an inquiry sent to W. D. Armentrout of the Colorado State Teachers College, Greeley, Colorado, the following statement was given with permission to quote:

We have made a study of the duplication of courses by analyzing the final examinations. We have never published the results of the studies. Our method of procedure is to analyze the final examina-

tions and discover the duplication in material. We have found more duplication in education courses than in any others.

This approach to the study of duplication should possess possibilities for use by any institution as a check on their organization of courses. The use of tests before and after a course has been taught illustrates a similar use of examinations which could be carried out by all instructors and the results compared much as is done by the Greeley plan. This technique alone would not be a sufficient check but could be used along with the others mentioned in this section.

2. *Theoretical and Historical Material of Little or No Functional Value. Need for More Emphasis on Practical School Problems and Interests of More Immediate Concern to Teachers*

Studies include student reports, questionnaires on courses, the evaluation of teachers' work by superintendents, principals, and supervisors, and theoretical discussions. Bagley [A 33] warns against conditions justifying this criticism and urges a continuous readjustment of courses to meet the issue. Most of the reports testify to the value of student teaching. One writer gives a list of historical topics that the graduates would prefer to have omitted. Clement [B 11] and Colvin [B 12] report that the training in management and discipline was the least adequate of any phase of training. Baker [B 4], Haefner [B 24], KeHy [B 32], Kirkley [B 35], Kruse [B 36], Lockhart [B 37], and Peik [B 44] stress the need of more research in this field and mention several weaknesses in organization. Among these are the inclusion of too much that does not really function, considerable superficial treatment, doubtful validity of content, and no definitely agreed upon content. On the other hand some courses were considered valuable and effective because they dealt with realities, made use of life-interests of the students, recognized student levels of maturity, recognized student point of view, and aroused new intellectual and aesthetic interests.

3. *The Preparation of Course Outlines or Syllabi by College Instructors*

This point is discussed mainly in connection with methods to improve college instruction. The suggestion comes from college students, graduates, and administrators. Cordray [B 14], Rohr-

bach [B 47], Rollins College Student Curriculum Committee [B 48], Sangren [B 52], and others mention the preparation of outlines and syllabi as one means of eliminating needless duplication of topics and overlapping of courses. The use of such outlines is also considered helpful in stimulating students to study. Other arguments for their use are that they promote the effectiveness of teaching in small groups and by the seminar method, and are a more complete guide to the student than frequent, brief assignments.

Arguments against their use are that they save too much of the student's time and rob him of necessary training in research, that they may tend to formalize the course and standardize its contents for succeeding classes, and that they may decrease the interest of the student if he has too complete an outline for his guidance. The arguments in favor of the plan seem to be the stronger as the quotation from the Rollins College Student Curriculum Committee indicates:

Every professor should draw up a detailed syllabus embracing the work to be covered in his course. These syllabuses should be distributed to each student at the beginning of the course, and should cover the essentials of the subject and at the same time make it possible for the average student to finish the work outlined in about one term. The student would then know exactly how much work was expected of him in advance, and could arrange his schedule accordingly. One of the chief benefits would be that after finishing his course the student would have a tangible outline of what he had taken. This could be shown to the dean of a graduate school, a prospective employer, or anyone else interested in the student's past record.

4. *The Small Range of Elective Courses and the Inclusion of Too Many Required Education Courses*

This criticism occurs in a variety of forms, the most prominent of which are: "Too much time spent on method at the expense of content"; "The subject matter to be taught is not given sufficient time"; "Too few electives in any curriculum"; "Too much that does not function"; "Too many required subjects"; "Need more electives and fewer restricted electives"; "Should require less professional work from inexperienced students"; "Improve the certificating laws to require additional preparation of teach-

ers after they begin teaching"; and "More emphasis on extension work, principles, ideals, and high standards of teaching."

Many writers have contributed to the discussion of different phases of this general criticism. Some of them are: Class [A 14], Evenden [A 20], Bagley [A 33], Jones [A 29], Judd [A 31, 32], and Rugg [B 50]. In addition to individual writers, numerous committees and professional organizations have also studied this problem and prepared detailed reports. Among these groups are the American Association of Teachers Colleges, the Committee of the National Survey of the Education of Teachers, and the American Association of University Professors.

No doubt some of this pointed criticism has a foundation, yet it will require a variety of experimental curricula to determine how it can best be met. This criticism should lead to a reconsideration of the basic educational philosophy for the education of teachers. It must change to meet new demands of the teachers and administrators in service but should have a core of sound educational principles.

5. *Titles of Courses Do Not Indicate Consistently the Course Content*

Under this criticism come the following points: ambiguous and misleading titles under which the same content may appear, courses with the same title which may have a very different content, and some courses in education which have no definite or uniform content. This indicates a need of uniform terminology for courses and a need of agreement on the nature of the content for each course in any given curriculum. An improvement here would aid and simplify the elimination of unnecessary duplication of topics in courses. These points have been developed by Bolton [B 9], Blue [B 8], Conger [B 13], Crabb [B 17], Evenden [A 20], Hoke [B 25], Monroe [A 37], and Wilson [B 57]. The Committee on Standards and Surveys of the American Association of Teachers Colleges [A 1] recommends agreement on titles and principal items for the basic courses offered.

An organization of courses as suggested above would require agreement on the aims and objectives for the education of teachers. This would lead to the development of a working and acceptable philosophy of education for all institutions engaged in the preparation of teachers. In view of the various philosophies

and points of view now held, such a uniform plan of organization seems rather remote. It should be quite possible to secure some agreement within groups of similar ideals, aims, and educational philosophy.

6. Cultural and Broadening Courses Should Receive More Attention

Many writers and numerous committees have dealt with various phases of this criticism, and have offered a variety of proposals and plans to meet some of the urgent needs as they see them. Among such writers are Alexander [B 1], American Association of University Professors [B 2], Betts [B 7], Bonser [A 6], Brown [A 9 and 10], Commonwealth Teacher Training Study [A 15], Finney [A 22], Horn [A 27], Hutchins [A 28], Judd [A 32], Kelly [B 33], Learned and Bagley [A 33], Meiklejohn [A 35], Moffett [B 38], National Survey of the Education of Teachers [B 39], Rugg [B 50], Rugg [B 39], Taylor [B 53], True [B 55], and Withers [A 49].

Perhaps one of the most significant expressions on this point has come from the report of the National Survey [B 39]. One portion of the report gives the average per cent of instruction of representative courses agreeing to a list of thirty-four aims, some of which are closely related to this general criticism. The following are pertinent:

Proper appreciation of contemporary life	62%
Proper appreciation of the social heritage	58
Mastery for culture's sake	53
Civic social responsibilities	33
Moral training	32

In another section of this report on sixty-three issues of teacher education, the following have been taken:

The minimum number of orientation, broadening courses	89.5%
Meet social-economic background of prospective teachers	63.9
Equip for insight into problems of contemporary life as well as social heritage	92

All percentages above are the sum of those answering Yes, unqualified, and Yes with reservations.

There is fairly good agreement that more cultural and broadening courses are needed. The essential problem is to discover the best methods to meet this need by the reorganization of courses in college and for teachers in service. Furthermore, anyone who has made an extensive study of curricular offerings should be willing to admit the truth of at least some of the other criticisms. Among the constructive proposals offered by several writers are: better development of personal traits of students; training for effective citizenship; development of leaders; inclusion of more cultural and appreciational subjects; contacts and opportunities in the fields of art, drama, literature, music, and science; more insight into the urgent problems of contemporary life; orientation courses; and development of a real meaningful philosophy of life.

DISCUSSION OF THE SIX MAJOR CRITICISMS

A careful examination of the above criticisms may give the reader an impression that the situation is quite deplorable and that capable organization of curricula in terms of students' needs and economy of time is lacking. Who, other than instructors and administrators, are responsible for this situation? Many writers strongly imply that various economies, readjustments, and improvements could be effected in many institutions if sufficient data were available for study and if the members of a college faculty should adopt more consistent planning and coöperation.

Even though only one or two of the criticisms may apply to any single institution, the situation is serious and should be faced frankly by those responsible for the education of teachers. It cannot be excused by pointing out that similar conditions exist in other types of educational institutions. For example, writers such as Angell [B 3], Koos [B 34], and Osburn [B 42] have presented evidence to show an undue repetition of topics, a waste of time, and improper balance of time between the useful and the accessory in certain units of the public schools, and in comparisons between high schools and colleges. Nor is it sufficient to say that if more investigations were made, some of the same difficulties might be found in other departments of a given normal school or teachers college, notably in the case of history and civics, English (especially literature), and the natural sciences. Such answers do not solve the problem nor do they remove exist-

ing causes of dissatisfaction and inadequacies in the preparation of teachers. Only by a thorough and careful study of all the elements concerned—the curricular content, the resources of the institution, the needs of the teachers in service, the needs of the vast army of public school children, and the ideals of a forward-looking profession—can the questions and issues raised be met fairly and perhaps partially answered.

In view of the varied criticisms and the questions which they suggest, it is clearly impossible to consider all of them fully within the limits of one investigation. Hence the present study is confined largely to the first two criticisms, with incidental reference to the other four, in connection with the graduates and students of Western Illinois State Teachers College at Macomb. Most of the issues are of general interest to all such institutions and to the profession as a whole. Broad applications of the findings are therefore indicated for institutions of a similar nature. Pertinent proposals are made both of local and of general application.

For purposes of the present study, the education courses include psychology and sociology. To complete the professional courses, student teaching and supervision are also considered.

PURPOSE OF THE STUDY

As this study is based on an evaluation of the topics of the education, psychology, and sociology courses offered at one state teachers college, and on comparative studies, it was first necessary to state a few major purposes as a guide, and then subdivide them into definite questions for further analysis and consideration. Hence, the purpose may be stated as follows: first, to make a study of the extent and nature of duplication or repetition of topics in the education courses; second, to determine the use made of the topics by the teachers in service; and third, to establish certain guides and offer suggestions which will be helpful in the choice and in the treatment of these topics for the prospective teacher. In connection with the first purpose, the following questions are to be considered for the various curricula:

1. To what extent is there repetition of topics as shown by the analysis of the courses?
2. To what extent is there repetition of topics within the same or related educational fields as shown by analysis of courses?

In considering the duplication of topics in the special methods courses separately and in comparison with the education and psychology courses, the following questions are to be answered:

1. To what extent are the special methods courses professionalized?
2. To what extent do the topics of all the required special methods courses duplicate those of the required education courses?
3. What topics are duplicated within the special methods courses?

In attempting to answer the above questions, data are to be drawn from the outlines of courses, the textbooks, and other available sources. These findings are to be compared with the reactions of the graduates and students by their responses to the topics of a check list.

In connection with the extent and nature of the repetition of topics as reported by the graduates and students, the following questions are considered for the various curricula:

1. What is the extent of helpful repetition?
2. What is the nature of the topics ranked high in helpful repetition?
3. What is the extent of the topics reported as no repetition in each curriculum?
4. What is the nature of the topics reported as no repetition?
5. What is the extent of the topics reported as unnecessary repetition?
6. What is the nature of the topics reported as unnecessary repetition?
7. Under what conditions is repetition helpful and justifiable?
8. Under what conditions is no repetition, i.e., a single treatment of the topic, helpful and sufficient?
9. Under what conditions is unnecessary repetition reported and what are the probable causes?

In dealing with the issue of neglect, underemphasis, or omission of topics, two questions are studied:

1. What topics are now somewhat neglected or underemphasized?
2. What additional topics are suggested by graduates for treatment in courses?

For the second purpose—the use or applicability of the topics in teaching, supervision, or other professional duties—the following questions are considered for two curricula combined:

1. What is the extent of the topics applicable in classroom teaching?
2. What is the nature of the topics applicable in classroom teaching?
3. Are any important differences noted between the curricula?
4. What topics are used most in the development of professional background and attitude?
5. What topics are used most for leisure-time interests?

In connection with the third general purpose—the development of guides and suggestions for curricular reorganization—the following issues are considered:

1. Under what conditions can repetition be justified?
2. When is no repetition—a single treatment of the topic—desirable?
3. What are some causes of and remedies for unnecessary repetition?
4. How can certain educational topics be made more functional for teachers in service?
5. What can be done to coordinate more thoroughly the theoretical, historical, and philosophical courses with actual practice in the field?
6. How can topics be classified on these bases:
 - a) Should be required of all prospective teachers.
 - b) Should be used for limited groups only.
 - c) Is of questionable value.
 - d) Should be omitted.
7. What are the extent and nature of these topics as listed in 6 above?

With the completion of this detailed statement of the purpose, we are prepared to continue with the other introductory items.

DEFINITION OF TERMS USED

Many words commonly used in educational writings are subject to some variations in meaning. In order so far as possible to avoid misunderstanding and misinterpretation, the writer has defined certain terms according to the intended meaning in this investigation.

1. *Topic.* This word is used here with its ordinary meaning, i.e., a division, head, issue, point, proposition, subject; a matter treated of in speech or writing; a theme for discussion; or a question. The exact nature of a topic varies with the different fields of human knowledge. In general a topic is here considered a subordinate part of the comprehensive unit of instruction. However, the reader will observe from a study of the topics in the check list (see Appendix) that in some cases a topic is considered the equivalent of a unit of instruction. This situation was difficult to avoid entirely because of the variety of fields and sources from which the list was prepared. It is only another indication that educational terminology is in need of further refinement.

2. *Unit of Instruction.* A recent writer,¹ who has exerted a wide influence in educational thinking and practice, has defined the unit in the following manner:

A comprehensive and significant aspect of the environment or of an organized science capable of being understood rather than capable merely of being remembered.

Another writer² defines the unit in a somewhat similar manner as:

The unified school experience which the pupil has in the attainment of any one or a group of related purposes.

Each of the above definitions implies the large or comprehensive unit of instruction and not the daily unit or daily lesson plan. In common practice they are often used interchangeably. The comprehensive unit has certain objectives with topics or problems to be considered in the attainment of those objectives. The term *unit* is here used in its broad and comprehensive meaning unless otherwise precisely indicated.

3. *Courses or Course of Instruction.* These terms are often used in two different ways. The meaning here intended is as defined by Harap³:

A subdivision of a curriculum in which the parts are sufficiently related to make unity.

Thus one may speak of a course in educational psychology, a

¹ Morrison, H. C., *The Practice of Teaching in the Secondary School*, p. 102. 1926. Reprinted by permission of the University of Chicago Press.

² Harap, H., *Technique of Curriculum Making*, p. 261. 1928.

³ *Ibid.*, p. 259.

course in rural sociology, or a course in supervision. A combination of suitable courses forms a curriculum.

4. *The Curriculum*. This consists of the experiences, such as the various courses of instruction, met by the student in his special preparation for a definite type of position. To illustrate, Curriculum A⁴ is a four-year curriculum for elementary teachers leading to the degree of Bachelor of Education.

5. *An Objective*. This is defined by Harap⁵ as follows:

A specific goal useful in life, to be achieved by education.

The present use includes those understandings, concepts, skills, attitudes, and appreciations which develop in the students by and through the study of the units of instruction.

6. *An Outcome*. This is defined by Harap⁶ as follows:

The result or end product of a unit of school experiences.

This is directly related to the previous term, *objective*. An outcome is shown by a check or inventory of the teaching process to determine to what degree the objectives have been realized.

7. *Aims, Principles, Generalizations, Controls*. These are to be developed by the course of instruction. They may often be given by the instructor in statement form if he has the course definitely organized or has an outline of it. They can often be found by reading the preface or introduction in a textbook. They are usually broader and more comprehensive than the objectives for a specific unit of instruction or experience but may be identical with, or partially overlap, some of them. Wherever the use of any such terms appears ambiguous, explanations are given which clarify the meaning intended.

The use and interrelationships of the terms, *curriculum*, *course of instruction*, *units of instruction*, *objectives*, and *topics*, are represented below in somewhat diagrammatic form:

Curriculum for a definite type of position

consists of *courses of instruction* each having aims and purposes. Each course is made up of

units of instruction with specific objectives for each one that lead to

⁴ *Western Illinois State Teachers College Quarterly*, Vol. XII, No. 1, June, 1932, pp. 63-68.

⁵ Harap, *op. cit.*, p. 260.

⁶ *Ibid.*

topics, problems, pupil activities. These imply definite teacher activities such as planning.

8. *Duplication, Repetition, or Overlapping of Topics.* This occurs when subject matter, topics, principles, issues, and the like, are presented or discussed quite similarly or when the same points of view, the same illustrations, applications, and techniques are used by the instructors in different courses. This may be some elaboration of the commonly accepted meaning of the terms.

9. *Master Check List or Check List.* This refers to the instrument of research consisting of 328 topics of instruction and the directions for checking by the graduates and certain students in college. (See Appendix for copy.)

10. *Master Check List or Check List for the Special Methods Courses.* This refers to the same check list as in 9 above but with a different set of directions sent to certain instructors of the college.

11. *Curriculum Charts.* Charts were prepared for each of the several curricula analyzed showing all the education, psychology, sociology, student teaching, and supervision courses with the corresponding topics of instruction. On account of their bulk they are not reproduced in this report.

12. *Duplication Charts.* Charts were prepared for each of the several curricula to show all duplicated topics and where they occurred in the different courses. The duplication charts were prepared from the curriculum charts.

13. *Education Courses.* The common use of this term to mean only certain well-recognized professional courses is probably an unfortunate one. All courses in an institution for the education of teachers should have a professional tone. This common meaning is implied in the present study, but is broadened to include the psychology and sociology courses, since they are all organized under the one department of education in the state teachers college intensively studied.

SOME BASIC ASSUMPTIONS

1. The subject matter content of courses in any curriculum cannot be adequately determined by a study of course titles or by catalogue descriptions.

2. An intensive analysis of textbooks, outlines, and syllabi used for the topics of instruction in the courses, with such analysis

checked for omissions and additions by the respective instructors, should yield a fairly accurate picture of the essential elements presented in any curriculum.

3. Curricula for the preparation of teachers will probably continue to be organized with distinct courses, each one with definite aims and units of instruction. It is possible and desirable to give each unit or topic a regular placement in one or more courses as a basis for comparative study. Of greater importance, however, is the assurance that each necessary unit occurs somewhere in each specialized curriculum.

4. A review of the literature on the curricula of normal schools and teachers colleges discloses certain basic criticisms and needs which should challenge the interest, attention, and careful consideration of all those engaged in the preparation of teachers.

5. The evaluation of topics in education courses by the graduates in the teaching field and by students should yield useful information regarding needs, values, or necessary changes in curricular offerings to make them more effective.

6. The evaluations and criticisms by the college instructors, directors of training, deans, and other officials should be equally valuable and necessary in a complete appraisal of the effective functioning of a curriculum both within the institution studied and for its graduates in service.

• 7. Regardless of the particular organization of curricula, an evaluation of the content of certain well-recognized and basic courses (or some of the topics) in education, psychology, and sociology will still be useful and important. Hence, the results and interpretations derived from the present study, based on one college, and on comparative studies should apply not only to the college studied, but to some extent should also afford suggestions for other institutions engaged in similar work.

8. The evaluation of topics may furnish material useful for others in building up similar courses or curricula, may improve college teaching, and may stimulate further experimental study.

9. The study should develop a plan or technique serviceable in a similar check on curricular offerings in other colleges or in different units of the public school system.

10. Such a study as the one here reported should point out further important problems needing more investigation and experimentation within both the institution and the territory which

it serves, and in institutions of a similar nature in other parts of the United States.

SOURCES OF DATA AND METHOD OF TREATMENT

1. A review of similar studies and articles, especially those on duplication and repetition of topics in education courses, those containing evaluations of topics or of courses, and those offering criticism and pointing out needs in the curricula for the education of teachers.

2. Analysis of textbooks, outlines, and syllabi used in the education courses of Western Illinois State Teachers College. This analysis furnished data for the following instruments of research:

- a) Master check list of topics sent to the graduates of the classes of 1926-1932 inclusive, and to the juniors and seniors of the school year 1932-33.
 - b) Master check list with the same topics as in (a), but with different directions for marking, sent to the heads of the subject matter departments to check topics in their special methods courses.
 - c) Curriculum charts for each curriculum showing the different courses in education, psychology, sociology, student teaching, and supervision, with topics listed under each course.
 - d) Charts showing duplication of topics for all education, psychology, sociology, student teaching, and supervision courses.
3. Personal data from the check lists filled out by the graduates and students.
4. Scholarship records, secured from the college office, of graduates and students whose check lists were used.
5. Use of tabulations, analysis charts, diagrams, and some of the elementary statistical devices to help in answering the specific questions and issues growing out of the three major purposes.

SUMMARY OF CHAPTER I

1. The purpose of the study includes:

- a) The study of duplication or repetition of topics in the education, psychology, sociology, student teaching, and

supervision courses at Western Illinois State Teachers College.

- b) The establishment of certain guides useful in the choice and treatment of topics in relation to their repetition; application to classroom teaching, supervision, or other professional duties; value as professional background or in the development of attitudes; value for leisure-time interests; and the extent of requirements for the prospective teacher.
- c) The presentation of data useful in the reorganization of courses for the college studied and other institutions.

2. A review of the literature dealing with the curricula of normal schools, teachers colleges, and departments of education in other schools discloses at least six major criticisms and needs which, in part, prompted the present study. They are:

- a) The waste of time and energy due to the duplication and repetition of topics in the different courses.
- b) A lack in functional value of much theoretical and historical material and a failure to place the main emphasis on actual needs and problems of teachers in service.
- c) Neglect by instructors to furnish outlines, or syllabi, of courses as an aid to students and a check on duplications in different courses.
- d) The requiring of too many education courses at the expense of subject matter courses.
- e) The ambiguous and misleading titles for courses and the inconsistent methods of organization under similar titles in many courses.
- f) The need of more cultural, appreciational, and orientation courses. The criticism is often expressed by the statement that the training does not prepare the teacher for full participation as a citizen in a community or that esthetic, artistic, and religious ideals are so frequently lacking in teachers.

3. A statement of twelve definitions for ambiguous terms is presented as an aid in establishing a common vocabulary.

4. A list of ten basic assumptions applicable to the field of inquiry is also given.

5. The sources of data include: similar studies bearing on the six criticisms and related topics; textbooks, outlines, and syllabi of courses used at Western Illinois State Teachers College; a master check list of topics sent to the graduates and students; a similar check list sent to the departments offering special methods courses; curriculum and duplication charts; and personal data concerning graduates and students secured from the office records.

6. The method of treatment consists of the usual devices as analysis charts, diagrams, tabulations, and the use of elementary statistical concepts.

CHAPTER II

THE ANALYSIS OF CURRICULA AND THE PREP- ARATION OF THE MASTER CHECK LISTS, CURRICULUM CHARTS, AND DUPLI- CATION CHARTS

BRIEF DESCRIPTION OF THE CURRICULA OFFERED AT WESTERN ILLINOIS STATE TEACHERS COLLEGE

THE college offers six curricula¹ designated as follows:

- a) A two-year curriculum selected from any of the four-year curricula as a junior college program.
- b) A special two-and-a-half-year curriculum in the following subjects: agriculture, art, art and music, biology, chemistry, chemistry and physics, commercial, English, geography, history, home economics, industrial arts, library economy, mathematics, mathematics and physical science, physical education for men, physical education for women, physics, primary, public school music, rural school (all grades).
- c) Curriculum A: A four-year curriculum for elementary teachers with further differentiations into lower grade, upper grade and junior high school, all grades or rural.
- d) Curriculum B: A four-year curriculum for superintendents, elementary school principals, and supervisors.
- e) Curriculum C: A four-year curriculum for high school teachers, principals, and special teachers.
- f) A one-year curriculum in education for college graduates who wish to qualify for the degree of Bachelor of Education.

In order to place a reasonable limit on the collection and interpretation of data for the study, only the two-year and the three four-year curricula (A, B, and C) are given intensive analysis. The results of such work can then be easily applied to the other

¹ *Western Illinois State Teachers College Quarterly*, Vol. XI, No. 1, pp. 56-90; Vol. XII, No. 1, pp. 63-96.

20 AN EVALUATION OF COURSES IN EDUCATION

CURRICULUM A, FOR ELEMENTARY TEACHERS: LOWER GRADE, UPPER GRADE, ALL GRADES (RURAL)

1ST YEAR

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
**1. Principles of Teaching	**Educational Psychology	**Classroom Management
*2. English	*Language and Grammar	**Tests, Measurements, and Statistics
*3. Methods of Teaching Geography or Elective	*Methods of History Teaching	*Methods of Teaching Arithmetic
4. Major or Minor	Major or Minor	Major or Minor
5. Physical Education	Physical Education	Physical Education

2ND YEAR

**1. Student Teaching	**Student Teaching	**Student Teaching
2. Physiology	History of the Northwest	American Government and Politics
3. Music Material and Methods	Art Materials and Methods	Major or Minor
4. Major or Minor	Major or Minor	Handwriting
5. Physical Education	Physical Education	Physical Education

3RD YEAR

**1. Advanced Tests, Measurements and Statistics	**Psychology of Elementary Education	**Sociology: General or Rural
2. Major or Minor	Major or Minor	Major or Minor
3. Minor	Minor	Minor
4. Minor	Minor	Minor

4TH YEAR

**1. History and Principles of Education	**Supervision	**The Educational Program—The Curriculum
2. Major or Minor	Major or Minor	Major or Minor
3. Minor	Minor	Minor
4. Minor or Elective	Minor or Elective	Minor or Elective

curricula, such as the two-and-a-half-year special and the one year for college graduates, or to any other combination of curricula taken by the student.

The courses for the three four-year curricula (patterns A, B, and C) are given above and on pages 21, 22 by quarters and by years. Courses for special analysis are starred. Those of the special methods subject fields (English, geography, history, language and grammar, mathematics) are single-starred; those in education, psychology, sociology, student teaching, and supervision are double-starred. We are primarily concerned with the latter group. The special methods subjects will receive some attention in connection with the study of the duplication of topics.

CURRICULUM B, FOR SUPERINTENDENTS, GRADE PRINCIPALS,
AND SPECIAL SUPERVISORS

The first two years of this curriculum are the same as the first two years of Curriculum A.²

1ST AND 2ND YEAR

(See same years of Curriculum A)

3RD YEAR

<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
**1. Advanced Tests, Measurements, and Statistics	**Psychology of Elementary or Secondary Education	**Public School Administration
2. Major or Minor	Major or Minor	Major or Minor
**3. Sociology	English or Foreign Language	English or Foreign Language
4. English or Foreign Language	Elective	Elective

4TH YEAR

**1. History and Principles of Education	**Grade Supervision	**The Educational Program—The Curriculum
2. Major or Minor	Major or Minor	Major or Minor
3. Major or Minor	Major or Minor	Major or Minor
4. Minor or Elective	Minor or Elective	Minor or Elective

In addition to showing the courses just mentioned, the other required courses are also listed. The special subjects which the student intends to study intensively are listed as majors and minors. Some electives are also provided.

SUMMARIZING THE CURRICULAR DATA

The essential facts are summarized in Table I, page 23. This gives the number of differentiations for each course and lists special methods courses and other required education courses. The first item of the table should be read and interpreted as follows:

Advanced educational psychology is given as one course. This is an identical course as it appears in each of the three four-year curricula—A, B, and C.

The third item is interpreted as follows:

Classroom management is given as three separate courses depending upon the nature of the curriculum. Many of the topics are the same but different treatment may be given to them.

² *Ibid.*, Vol. XI, No. 1, p. 62: "It is advised that superintendents and principals take the curriculum for teachers in all grades, and that supervisors take the curriculum for teachers in the grades they expect to supervise."

22 AN EVALUATION OF COURSES IN EDUCATION

CURRICULUM C, FOR HIGH SCHOOL TEACHERS, PRINCIPALS, AND SPECIAL TEACHERS

1ST YEAR		
<i>Fall Quarter</i>	<i>Winter Quarter</i>	<i>Spring Quarter</i>
1. Major or Elective	Physiology or Elective	History or Elective
2. Minor	*English	Minor
*3. Language and Grammar	Major	English
4. Major	Minor	Major
2ND YEAR		
1. Major	Major	Major
2. Elective Art	Physical Education or Elective Art	Elective Art or Physical Education
3. English or Foreign Language	English or Foreign Language	English or Foreign Language
*4. Special Methods	**Elementary Educational Psychology	**Principles of Teaching
5. Handwriting	Handwriting	
6. Physical Education	Physical Education	
3RD YEAR		
1. Major	Major	Major
2. Minor	Minor	Minor
**3. Student Teaching	**Student Teaching	**Student Teaching
**4. Classroom Management	**Sociology or Sociology (Rural)	**Public School Administration or Advanced Educational Psychology or Elective
**5. Tests, Measurements, and Statistics		
4TH YEAR		
1. Major	Major	Major
2. Minor	Minor	Minor or Elective
**3. Supervision in Major Subject	Minor or Elective	**The Educational Program—The Curriculum or Advanced Educational Psychology
**4. History and Principles of Education	**Psychology of Secondary Education	Minor

The table shows that there are as high as four differentiations for some of the courses. This complicates the problem of studying the duplications within curricula, for the courses which are not exactly equivalent do cover certain basic topics of a similar nature. The problem is further complicated by the necessity of curricular organization according to a dual plan so that the divisions of the horizontal level of the school organization (primary, intermediate grades, junior high, and senior high) can be met from the practical point of view, while the vertical cross sections (principles of teaching, measurements, educational psy-

chology, etc.) are included with various degrees of overlapping and combinations.

TABLE I

LIST OF COURSES ANALYZED FOR TOPICS OF THE MASTER CHECK LIST, SHOWING
THE NUMBER OF DIFFERENTIATIONS FOR EACH COURSE

(Data include all three Curricula: A, B, and C)

Name of the Course	Number of Differentiations	Name of the Course	Number of Differentiations
Advanced Educational Psychology	1	Psychology of Secondary Education	1
Advanced Tests, Measurements, and Statistics	1	Public School Administration ..	1
Classroom Management ..	3	Sociology ..	2
Elementary Educational Psychology	1	Student Teaching	4
Elementary Course in Tests, Measurements, and Statistics (six-week course)	2	Supervision	4
History and Principles of Education (Philosophy course) ..	1	The Educational Program ..	1
Principles of Teaching	4	Special Methods Courses	
Psychology of Elementary Education	1	English	3
		Geography	3
		History	2
		Language and Grammar ..	3
		Mathematics	3

THE ANALYSIS OF TEXTBOOKS, OUTLINES, AND SYLLABI FOR THE TOPICS OF INSTRUCTION

A description of the steps in the analysis of the course material is presented here. The steps are recorded in the order in which they were made. Each one will be separately described.

1. It was first necessary to verify catalogue statements concerning the textbooks listed for each course to be analyzed. Correspondence with the proper persons showed that, of the fifteen different courses required in the two-year curricula, only two changes had been made in textbooks during the period covered by the analysis. No other changes were reported for the other curricula. A few outlines and syllabi were available.

2. Each course was taken in turn and its textbook, outline, or syllabus, or appropriate combination, was analyzed for the topics of instruction keeping in mind the definition of the topic as given under the list of definitions in chapter one. The complete list of textbooks, outlines, and syllabi used is given in the Appendix.

3. As each topic was obtained from this analysis, a three-by-

five-inch card was made out to show: (a) course number; (b) statement of topic; (c) author and title of textbook, if any; (d) page reference for topic discussed; (e) total number of pages given to its treatment (if in text).² A sample of such a card is shown below. These cards were then filed alphabetically according to courses.

Education 133	Problem method of teaching
	Douglass, H. R. Modern Methods in High School Teaching
	Problem teaching, pp. 295-320. (26)

For the twenty-one education courses (including psychology, sociology, education, student teaching, and supervision) 583 topic cards in all were prepared—an average of 27.7 cards for each course. For the special methods courses of the required subject fields, 179 topic cards were prepared—an average of 13.8 cards for each course.

Most of the topics listed are capable of further subdivision, as some of them are broad and comprehensive enough to be used as units of instruction as defined in chapter one. Illustrations of these are: *the nature of individual differences, the laws of learning, agencies of social control, and curriculum theories and practices*. Some topics of a narrower import are: *the appreciation lesson, Athenian conservatives and their attitude, city school district, eye-movements in reading, learning curves, and the hygiene of ventilation*. It is quite probable that other workers would make somewhat different selections than those here reported, but all the topics chosen are recognized today by instructors and textbook writers. In any choice of topics one is limited by several factors: (1) the possibility of being either too narrow and exclusive or too comprehensive; (2) the organization and treatment of the subject matter by the author of a textbook, an out-

line, or a syllabus; (3) the judgments of the college instructors whose courses are concerned with the topics; (4) the varying meanings attached in theory and practice to the topic in its relation to the teaching and learning process.

4. These cards were next used to prepare lists of topics, each list comprising one course. The lists were sent to the proper instructors with the request that they check the topics for omissions and additions. From a total of twenty-six lists sent out, thirty-four omissions and forty-one additions were secured. This is strong evidence that in the majority of cases the course is based largely on one textbook.

5. For every additional topic reported by an instructor, a topic card was made out and placed in its group. For each omission reported, i.e., a topic on the list which the instructor reported as not being used, its card was removed from the active file and placed in a reserve file. Where more than one instructor taught the same course, it was necessary to check each reported omission carefully before discarding this topic. In general, the agreement in topics taught by different instructors of the same subject was very noticeable. There were few exceptions to this statement.

6. After obtaining the above information from the instructors, the course lists were revised. The further use of these lists is explained in later sections. The list of courses analyzed and thus refined, together with the number of differentiations per subject field, are given in Table I, page 23.

PREPARATION OF THE MASTER CHECK LIST FOR GRADUATES AND STUDENTS

Preparation of the List from Topic Cards. The 583 topic cards, prepared according to the steps previously described, were now all thrown together and alphabetized. They were examined at frequent intervals for duplications in topics. In all, 275 cards were eliminated on this basis, leaving 328 topics as mutually exclusive as it seemed possible to make them. An examination of this list will reveal some minor duplications, but they were permitted because only one list of topics was sent to graduates and students of all curricula. In some cases a certain wording seemed more appropriate to one curriculum than to another. It was often necessary to make compromises in wording and permit a slight repetition. Much of the duplication in the original group of 583

topics was therefore between curricula; and hence not a real duplication for any one student, as he would take but one curriculum at a time.

The 328 topics derived from this process of refinement now formed the master check list sent to the two-year, two-and-a-half-year, and four-year graduates of the college for the years 1926-1932 inclusive, and to the junior and senior students of the school year 1932-33.

The Directions for Marking the Check List. The complete list of topics can be found in the Appendix. The graduates and students were asked to check each topic on the basis of six categories as follows:

Column No.

- I. Occurrence of the topic in any of my courses
Response: Yes or No
- II. Applicability of the topic to my classroom teaching, supervision, or other professional duties
Response: (*h*) high, (*m*) medium, (*l*) low
- III. Valuable in the development of professional background and attitude including general information
Response: (*h*) high, (*m*) medium, (*l*) low
- IV. Valuable for my leisure-time interests
Response: (*h*) high, (*m*) medium, (*l*) low
- V. Repetition of the topic in different courses
Response: (*h*) helpful, (*no*) no repetition, (*u*) unnecessary repetition
- VI. Suggestions as to future treatment of the topic in education courses for the prospective teacher
Response:
 - (*r*) require of all
 - (*s*) specific value only for limited groups
 - (*q*) of questionable value
 - (*o*) should be omitted

Page 8 of the check list called for certain personal information regarding years of experience in teaching, type of curriculum, and so on.

Use of a Card File for Recording Replies to the Check List. A three-by-five-inch card giving the name, home, and school address was prepared for each student or graduate to whom a check list was sent. A two-color plan was followed; one color for the two- and two-and-a-half-year graduates, and another color for the

four-year graduates. When a check list was received, it was examined carefully for possible inaccuracies or omissions. If a returned check list could not be used because of incompleteness, failure to follow directions, or other sufficient reasons, it was laid aside, and the responder's card was placed in alphabetical order in the inactive file. If a returned list were usable, it was classified according to the curriculum followed, and the personal data thereon were transferred to that person's card, which was placed in the active file. Below is a sample form of the card:

Name_____	— yr. Cur.
Home address_____	19—
School address_____	
Graduate study_____	
Teaching experience:	
rural _____	
grades _____	
junior high_____	
senior high_____	
principal or sup't_____	
special supervisor_____	
present position_____	
Remarks:	

These cards made it possible to record the use of the post card and letter in the follow-up plan; to note changes in address, return of check lists to graduates and students for additional information, and any other necessary correspondence; and later in securing scholarship records from the recorder's office.

DESCRIPTION OF THE CHECK LIST USED IN SURVEYING THE SPECIAL METHODS COURSES

Copies of the master check list used for graduates and students were also sent to the heads of the subject matter departments of the college with the request that they be checked according to the following directions:

To the Head of the _____ Department or to the instructor asked to fill out the check list:

Please consider your offerings in all special methods courses from the departmental point of view. This is not intended as a check for each separate course. The judgments will hence be approximations, but sufficient for comparative purposes. Only one report is needed from each subject field or department.

Column No.

- I. If the topic occurs in one or more of the special methods courses offered in your department, then place a check opposite. In case you check a topic as occurring, then please check in only one of the other columns, II, III, or IV. All unchecked topics in Column I will be considered as not occurring in any course of your department.
- II. Brief and general treatment only is given.
- III. More complete and technical treatment is given.
- IV. Thorough and exhaustive treatment is given.

Some of the data from this survey of the special methods courses were used in the preparation of tables showing duplications of topics between the methods courses and in comparison with the education courses. (See Tables XI and XII.)

THE CONSTRUCTION OF THE CURRICULUM CHARTS

Steps in the Construction of the Charts. In order to analyze the courses in each curriculum for duplication and repetition of topics, it was necessary to construct a large chart for each curriculum. The courses were arranged as described in the organization of curricula in Chapter II.

To illustrate, in the preparation of the chart for Curriculum C, the titles of the required and elective courses in education, psychology, sociology, student teaching, and supervision were placed across the top of a large sheet of paper in the same order as they appear in the curriculum patterns in Chapter II. The course titles were numbered from left to right. The alphabetical list of numbered topics was placed directly under each title. This placement of topics in parallel columns made it possible to trace each topic from course to course for all possible duplications or repetitions. This plan also facilitated comparisons between any two or more courses, as, for example, comparison of all psychology courses with one another, comparisons of principles of teaching with classroom management and student teaching, and so on. In each curriculum, all topics of similar name or statement or of closely related subject matter were checked along the left margin. Apparent duplications were verified where possible by further analysis of the subject matter in textbooks. Since these curriculum charts are entirely too bulky to reproduce they are omitted from the Appendix.

Description of the Temporary Card Prepared from the Curriculum Charts. For each topic checked on the curriculum charts as being duplicated, a temporary three-by-five-inch card was made, bearing the following information which was later transferred to the duplication charts:

- Statement of the topic numbered as on the check list.
- Numbers of the courses in which the topics occurred (from two to eight on each card).
- An arbitrary course placement, usually the one in which the topic seemed most appropriate, was indicated by underscoring the x in one of the columns.

A sample of the temporary card is given below.

E					
So. Ethics of the teaching profession					
	3	5	6	7	8
	<u>x</u>				

The card should be read as follows: The topic, Ethics of the teaching profession, occurs in course 3, Classroom Management, in which it is arbitrarily placed here for purposes of comparison as indicated by an underscored x ; in course 5, Student Teaching; in course 6, Sociology; in course 7, Public School Administration; and in course 8, Supervision.

This information would probably have been even more useful if the degree or variation in treatment could have been determined. This is a constantly varying factor from class to class and from one course to another. However, the fact of actual duplication in courses is established and seems of the most value.

THE PREPARATION OF THE DUPLICATION CHARTS

After making an examination of all topics in all courses for possible duplications, the temporary cards were now alphabeti-

cally arranged, numbered the same as on the master check list, and copied for the organization of the duplication charts for Curricula A and C. Since Curriculum B is made up of portions of Curriculum A with many similar courses, no separate chart was prepared for it. The chart shows for each duplicated topic the number and title of the course in which it occurs. The regular placement of the topic is indicated by italicizing the x in one column. Hence, the reading of these charts is the same as that given for the temporary card just described.

The two duplication charts furnished part of the data for a study of duplication and repetition of topics discussed in later chapters. The two charts, No. I for Curriculum A, and No. II for Curriculum C, may be examined in detail by reference to Chapter IV.

This completes the description of the techniques and instruments used in assembling and studying the original data. The next chapter is planned to discuss the reliability of the sampling on returns to the master check list and the reliability of the replies.

SUMMARY OF CHAPTER II

The chapter has given consideration to the following points and made the following contributions:

1. A brief description of the curricula offered at Western Illinois State Teachers College, Macomb, Illinois.
2. A summary of the curricula data.
3. A description of the steps in analyzing the textbooks, outlines, and syllabi for the topics of instruction.
4. A description of the four instruments of research:
 - a) The master check list for graduates and students.
 - b) The master check list for instructors of the special methods courses.
 - c) The curriculum charts.
 - d) The duplication charts.
5. The use of the various card filing systems to facilitate the organization of essential data.

CHAPTER III

CLASSIFICATION OF THE GRADUATES AND STUDENTS WHO COÖPERATED IN THE STUDY

THE RELIABILITY OF THE SAMPLING

Introductory Statement. A total of 1,400 check lists were mailed to the two-year, two-and-a-half-year, and four-year graduates, including the classes of 1926 to 1932, and also to the juniors and seniors of the school year 1932-33. The follow-up plan included the sending of eight hundred post cards three weeks later. A third and final appeal was made four weeks later by the use of seven hundred letters. Half of the letters contained the suggestion that the recipient check only the even-numbered topics, and the other half suggested that the recipient check the odd-numbered topics. The returns from the post card were much better than those from the last appeal. It may be that the follow-up plan was extended over too long a period of time especially as the busy spring season was approaching.

A total of 540 check lists were received, including six blanks, and six which came too late for tabulation. This is a 38.5 per cent return, and compares favorably with those reported by other investigators working with similar groups. Kelly [B 33] reported an 18-19 per cent return from graduates of 1919-1923 of the University of Minnesota.

Of the 540 check lists received, twelve could not be used, as six were blanks and the other six came too late; 98 were discarded as too incomplete for various reasons to be included in the total tabulations. This left 430 complete and usable lists which furnish the information used in different sections of this study.

Returns According to the Year of Graduation. Table II gives the returns to the check list by year of graduation or year in college (junior or senior). The returns from the classes of 1926 and 1927 were not so high, but this was probably to be expected. Those from later classes seem fairly representative. The table is read as follows: 28 seniors of the class of 1932-33 sent in usable

TABLE II

CLASSIFICATION ACCORDING TO THE YEAR OF GRADUATION FOR THE WESTERN GRADUATES AND STUDENTS WHOSE CHECK LISTS WERE USED IN THE STUDY

Year of Graduation or Student Year	2- and 2½-year	4-year	Total	Percentage of Total Replies
1932-33 seniors	0	28	28	6.5
1932-33 juniors	0	21	21	4.9
1932	24	53	77	18.0
1931	30	43	73	17.0
1930	23	33	56	13.0
1929	23	40	63	14.6
1928	21	25	46	10.7
1927	24	21	45	10.5
1926	1	20	21	4.8
Total	146	284	430	100.00

check lists, which was 6.5 per cent of all lists used. The class of 1932 sent in 77 usable lists, or 18 per cent of all lists used.

Classification According to Curriculum Studied. Table III classifies the group according to the type of curriculum which the graduate or the student pursued. Both the 2-year and the 2½-year curricula are either a part of, or can be readily transferred to, one of the three 4-year curricula. Many of the graduates have had more training than this table indicates, as such a table cannot give an exact picture of their present status, because of their further training and experience since graduation. However, it represents a reliable cross section at the time of the study. The group of 150 graduates from the 2-year and the 2½-year curricula represent those who prepared for teaching in the elementary field. According to the present certificating law¹ they are entitled to a limited state certificate on the basis of two years' work which permits them to teach in the elementary field. The other group of 250 represents those who prepared for the high school field as teachers, special teachers, or principals. Curriculum B would naturally include a relatively smaller group, since it trains superintendents, grade principals, and special supervisors. Moreover, these positions are often filled by promotion of teachers in the system, some of whom have taken Curriculum A or C. Curriculum B duplicates much of the work of Curriculum A but includes other electives for broader training. It is plain from

¹ *Western Illinois State Teachers College Quarterly*, Vol. XII, No. 1, June, 1932, pp. 45-52.

TABLE III
CLASSIFICATION OF GRADUATES AND STUDENTS ACCORDING TO THE CURRICULUM
WHICH EACH STUDIED

Type of Curriculum	Lower Grade	Upper Grade	All Grade	High School	Total
A Curriculum for elementary teachers					
2-year	44	25	66	0	135
2½-year	8	2	5	0	15
4-year	9	4	14	0	27
B Curriculum for superintendents, supervisors, and grade teachers	0	0	3	0	3
C Curriculum for high school teachers, principals, and special teachers	0	0	0	250	250
Total	61	31	88	250	430

Table III that the discussion can be centered around Curricula A and C.

Classification According to Teaching Experience. Table IV was prepared in order to give a picture of the group when divided according to the number of years of teaching. The lowest group had the smallest amount of experience, which includes either two quarters of student teaching in the 2-year curricula (or five semester hours), three quarters in the 2½-year curricula (or seven and a half semester hours), or three quarters of student teaching and one quarter of supervision in the 4-year curricula (or ten semester hours). This group includes most of the juniors and seniors of the year 1932-33 and a considerable number of the graduates who have had no teaching position since graduation. The table shows a wide range of teaching experience, from one to 30 years. It represents service in all branches of the public school system.

The median number of years of teaching experience for the group is 4.68; the upper quartile is 8.43; the lower quartile is 1.92 years.

Classification According to Present Teaching Position or Other Present Status. Table V presents still another view of the variety of interests represented by the group when it is divided according to the present teaching position or other present status. Of the 430 individuals concerned, 148, or 34.4 per cent, are filling ele-

TABLE IV

CLASSIFICATION OF THE GRADUATES AND STUDENTS ACCORDING TO THE NUMBER OF YEARS OF TEACHING EXPERIENCE

Number of Years of Teaching Experience	Curricula A and B 2- and 2½-year	Curriculum A 4-year	Curriculum C 4-year	Total
28-30	1	0	0	1
25-27	1	2	0	3
22-24	0	0	0	0
19-21	6	3	3	12
16-18	3	3	3	9
13-15	6	2	9	17
10-12	22	5	14	41
7-9	16	5	26	47
4-6	45	4	61	110
1-3	40	5	74	119
2-3 quarters student teaching ..	10	1	60	71
Total	150	30	250	430
Q ₃	8.43			
Median	4.68			
Q ₁	1.92			

mentary teaching positions. Counting in the six superintendents, the eight supervisors, and the four grade critic teachers, the number is increased to 167, or 39 per cent. For the high school field, including the ten principals, the number is 103, or 24 per cent of the total. The other types of positions represented are librarian, substitute teacher, and college instructor. Eleven are graduate students; and 105 graduates, or 24.4 per cent, report that they are not teaching. For this situation they give a number of reasons, some of which suggest other problems for study, probably the most outstanding of which is that concerning teacher supply and demand. Such problems need to be attacked coöperatively by all agencies engaged in the education of teachers. Data on these questions are available from the National Survey of the Education of Teachers and similar studies.

The data show that on the basis of length of curricula, 130, or 30 per cent, have had the 2-year curriculum; 21, or 4.8 per cent, the 2½-year curriculum; and 279, or 65 per cent, have had the 4-year curriculum. Combining the 2-year and the 2½-year curricula gives 151 teachers, among whom are included 105 in elementary, 4 in junior high, and 1 in senior high school teaching positions. It is encouraging to note that of the 279 4-year grad-

uates, 43 are teaching in the elementary field. The proportion of 4-year as contrasted with 2-year graduates should be larger for the elementary field. A total of 98, including 10 principals, are located in the secondary field.

TABLE V

DISTRIBUTION BY PRESENT POSITION OR STATUS FOR THE GRADUATES AND STUDENTS WHOSE CHECK LISTS WERE USED

Position or Status	2-Year	2½-Year	4-Year	Total
Lower grades	39	9	15	63
Upper grades	15	3	9	27
All grades	34	12	7	42
Principal of grades	2	1	1	4
Supervisor of grades one to eight	0	1	3	4
Supervisor of grades five to eight	0	1	0	1
Supervisor of grades one to twelve	0	0	3	3
Grade critic	0	0	4	4
Superintendent of schools	0	0	6	6
Principal of high school	0	0	10	10
Junior high school	4	0	12	16
Senior high school	1	0	76	77
Librarian	0	0	2	2
Substitute teacher	2	0	2	4
College instructor	0	0	2	2
Graduate student	0	0	11	11
College student	6	2	41	49
Not now teaching	27	3	75	105
Total*	130	21	279	430

Distribution According to Honor Points from Office Records. Table VI was prepared to give the distribution of honor points or scholarship rating as indicated by the letter grades on the official record cards. The Kappa Delta Pi plan of equating grades was used. It is based on the following divisions:

Grade	Honor Points
A	5
A-	4
B	3
B-	2
C	1
E	0

The distribution is based on all the courses taken by each of the graduates and students. Each card was examined for courses and the honor points were totaled. This total was divided by the

number of courses included to secure the honor point rating. This rating probably represents the best single criterion available for checking the adequacy of the sampling. It is based on from 24 to 48 courses (in some cases more) for each individual, and represents the combined judgments of a faculty ranging in size from 30 to 70 for the years included.

The range in honor points is from 1.91 to 4.7 with a median for the four groups ranging from 3.14 to 3.72 points. There is a slight tendency for the 4-year groups to rate higher in scholarship than the 2-year or the 2½-year groups. This may be the result of selective factors or a better orientation and method of study for those students who continue to work for the 4-year degree.

The percentage distributions of the average honor points are given for the various groups below the model distribution taken from a recent textbook in statistics.² It is quite apparent that the two extremes are missing in the distributions.

Model	C & E 3%	B- 22%	B 50%	A- 22%	A 3%
2- and 2½- year	0.66	39.3	53.9	4.7	0
4-year A	0.0	10.0	60.0	30.0	0
4-year C	1.6	17.2	58.8	22.8	0*
Total for all groups	0.46	24.41	57.2	16.97	0

These ratings include the high, the average, and the low, with a slight tendency toward the higher group of scholarship or better than average for the 4-year graduates. For the 2-year and the 2½-year graduates, the tendency is toward the lower end of the scale. The data would not give a very symmetrical curve, for it is possible that some selective factors may have entered to discourage persons whose scholarship rating is much lower than average from filling out the check list, or else they may have checked it so incompletely that it was not usable. The values in percentages for the 4-year groups and for the total of all groups are near the model percentages. It is safe to say that the three levels of ability are well represented in the study.

*Tiegs, E. W. and Crawford, C. C., *Statistics for Teachers*, pp. 117 ff. 1930.

TABLE VI

DISTRIBUTION OF HONOR POINTS BY CURRICULA FOR THE GRADUATES AND STUDENTS WHOSE CHECK LISTS WERE USED

Honor Points	2- and 3½-year Curricula		4-year A and B		4-year C		Total f	Percent- age of Total
	f	Per Cent	f	Per Cent	f	Per Cent		
4.5-5.0	0	0	1	3.33	11	4.40	12	2.79
4.0-4.49	7	4.7	8	26.67	46	18.4	61	14.18
3.5-3.99	35	23.3	11	36.67	62	24.8	108	25.11
3.0-3.49	46	30.6	7	23.33	85	34.0	138	32.09
2.5-2.99	48	32.0	3	10.00	40	16.0	91	21.16
2.0-2.49	11	7.3	0	0	3	1.2	14	3.25
1.5-1.99	1	0.66	0	0	1	0.4	2	0.46
1.0-1.49	0	0	0	0	0	0	0	0
Cards missing	2	1.33	0	0	2	0.8	4	0.93
Total	150		30		250		430	99.97
Q ₃	3.56		4.09		3.83		3.84	
Median	3.14		3.72		3.46		3.37	
Q ₁	2.74		3.32		3.09		2.98	
σ58	

THE RELIABILITY OF THE REPLIES TO THE CHECK LIST

Measuring the Ability to Remember the Occurrence of Topics.

A frequent criticism made by those who filled out the check list was that they found it difficult in many instances to remember whether a certain topic actually occurred in the college courses or whether it was developed through other agencies. In order to secure some adequate measure of memory as required in response to columns I and V of the check list, a plan of counting was devised. Two lists of 25 basic topics each were assembled from the required courses of the first two years of Curricula A and B and of the four-year Curriculum C. These topics were chosen carefully from the approved lists secured from the different instructors as previously described in Chapter II. The topics were taken entirely from the required courses. The minor differentiations were avoided in some courses by choosing only similar or identical topics.

The method used to determine the percentage of memory was to take from Tables XIII and XV the number of Yes's recorded for each of the topics of the lists as they occur in Table VII. Each of the two curricula, A and C, was checked independently by list 1 and list 2. For example, topic 4, aims of education, was

TABLE VII

COURSES AND TOPICS USED AS A MEASURE OF RELIABILITY FOR MEMORY IN
REPLIES TO PORTIONS OF THE CHECK LIST *

Course	1st List	2nd List
Principles of Teaching	4, 135, 225, 231, 309	15, 61, 160, 189, 209
Educational Psychology	74, 100, 142, 208, 319	16, 23, 47, 68, 72
Classroom Management	37, 63, 80, 112, 158	20, 33, 55, 86, 121
Tests, Measurements, and Statistics	29, 53, 77, 185, 289	97, 101, 107, 123, 187
Student Teaching	31, 92, 148, 150, 192	43, 82, 124, 149, 242
Total	25	25

* This table should be read as follows: For the course, Principles of Teaching, topics number 4, 135, 225, 231, 309 were chosen from the check list to test memory of student by list 1, etc.

checked Yes by 147 of the 150 graduates as occurring in courses; topic 29, central tendency measures, was checked Yes by 118 of the 150 graduates. (See Table VIII.) Perfect memory would have given a Yes for every topic and the total Yes's over the total possible Yes's would equal one, or 100 per cent. Using the actual total number as the numerator and the total possible number as the denominator, we derive a fraction which reduces to a percentage basis. For Curriculum A the results were 82 and 79 per cent; for Curriculum C they were 87.5 and 85.7 per cent. This is fairly close agreement for each of two independent lists and argues for a reasonably reliable memory on the part of those who responded.

A check on the memory of college students for information in Zoölogy, Educational Psychology, and Physiological Chemistry was made by Greene [B 23]. In the latter subject two groups of students lost 28 points on a retest from June to October—an equivalent of about half the information. Further tests indicated some drop until the usual curve of forgetting, indicated by its leveling off to a horizontal position, showed that most of the forgetting had ceased and that a certain residue remained. The two situations are not quite analogous, for the teacher in service is constantly using, and in a sense, reviewing or relearning much of the information derived from the study of the many topics presented for the first time in his college courses. This type of recall or review is not always present with the college student unless he has developed specific study habits to include such a

TABLE VIII

LIST OF TOPICS CHECKED YES BY GRADUATES AND STUDENTS FOR THEIR OCCURRENCE IN COURSES

(Data from Tables XIII and XV)

1st List of Topics	2nd List of Topics	Curriculum A		Curriculum C	
		1st List	2nd List	1st List	2nd List
4	15	147	110	204	203
29	16	118	107	179	193
31	20	144	92	200	138
37	23	121	117	174	172
53	33	129	130	177	185
63	43	139	146	191	195
74	47	110	139	170	193
77	55	77	96	145	134
80	61	124	145	181	201
92	68	75	97	116	150
110	72	130	125	191	180
112	82	132	133	190	192
133	86	131	72	194	156
142	97	122	63	189	109
148	101	146	127	194	180
150	107	145	132	198	172
158	121	118	133	175	189
185	123	137	146	194	202
192	124	143	99	199	180
208	149	113	128	172	189
225	160	115	127	179	185
231	187	133	115	200	173
289	189	105	146	177	204
309	209	127	118	184	166
319	242	96	136	160	198
Total		3,077	2,979	4,533	4,439
		$\frac{3,077}{25 \times 150}$ or	$\frac{2,979}{3,750} =$	$\frac{4,533}{207 \times 25} =$	$\frac{4,439}{5,175} =$
		$\frac{3,077}{3,750} = 82\%$	79%	$\frac{4,533}{5,175} =$	85.7%
				87.5%	

technique. Hence the teacher may be expected to have built up more associations in connection with daily work and through other contacts of a professional nature.

It is difficult to determine whether a given topic was first presented in college courses, or through their stimulation, or whether it was learned later in other ways. The results of the measurement for memory indicate that considerable relearning must have

occurred or that over-learning took place at the beginning. The percentages may be high but we have no reliable numerical correction which we can apply to them.

SUMMARY OF CHAPTER III

1. The claim is made that the sampling of graduates who replied to the check lists is an adequate one on the basis of the following considerations:

- a)* A range in the year of graduation is indicated.
- b)* Sufficient lists were returned to represent adequately the different curricula under investigation.
- c)* A wide range of teaching experience is represented.
- d)* A variety in present teaching position or status is evident.
- e)* The scholarship rating in honor points approximates the normal curve of distribution.

2. Replies to the check lists which involve memory of certain topics may be considered fairly reliable for the following reasons:

- a)* A check of 50 topics for the two curricula indicates a range of 79 to 87 per cent retention.
- b)* Returns from certain groups do not appear highly selective.
- c)* The nature of, and the variety in, the 328 topics listed apparently tended to counteract any highly selective factors such as special interests, attitudes, type of position, or present status.

3. Replies to the other sections of the check list are based largely on judgment and opinion. They have the merits and defects of any other similar type of data derived in the same manner.

CHAPTER IV

THE EXTENT AND NATURE OF THE REPETITION OF TOPICS IN ALL CURRICULA

DUPLICATION OF TOPICS WITHIN EACH OF THE CURRICULA

THIS section is planned to answer the question: "What amount of duplication is there within each of the curricula, A, B, and C?"

The duplication charts previously described in Chapter II reveal the situation so that the data therein can be compared with the judgments of graduates and students regarding the extent and nature of the repetition of topics as they experienced it in the different courses of their chosen curriculum. The discussion will center around three specific questions.

1. *To what extent is there repetition of topics in Curriculum A for elementary teachers?*

Since the courses of Curriculum B, the curriculum for superintendents, grade principals, and special supervisors, are similar to the sections of Curriculum A for the first two years, and identical with them in the last two years, the analysis of Curriculum A will be practically the same as that of Curriculum B as is shown in the description of these two curricula given in Chapter II. Hence, to save space, only one analysis is given, which in all cases covers the content of both curricula with the exception that Curriculum B provides more electives which help to train for the supervisory activities.

Duplication Chart I presents certain topics in alphabetical order numbered as on the check list. The chart lists only those topics which occur in more than one course. This is indicated by an x. An x in italics shows that such a topic has been given an arbitrary placement in this course for comparative purposes. We need this arbitrary, definite placement in order to consider the other occurrences as repetition.

DUPLICATION CHART I

DUPLICATION OF TOPICS IN THE REQUIRED EDUCATION COURSES OF THE FOUR-YEAR CURRICULUM A FOR ELEMENTARY TEACHERS

(Data from the Curriculum Chart)

List of Topics Numbered as on the Master Check List	<div>Principles of Teaching</div> <div>Elementary Educational Psychology</div> <div>Classroom Management</div> <div>Tests, Measurements, Statistics</div> <div>Student Teaching</div> <div>Rural Sociology or Sociology</div> <div>Public School Administration</div> <div>Supervision</div> <div>History and Principles of Education</div> <div>Psychology of Elementary Education</div> <div>The Educational Program</div> <div>Advanced Tests, Measurements, and Statistics</div> <div>Advanced Educational Research</div>												
	1	2	3	4	5	6	7	8	9	10	11	12	13
4. Aims and objectives—teaching	x							x			x		
21. Attention—individual and class		x	x		x					x			x
29. Central tendency				x									
38. Clubs—rural	x		x		x	x		x					x
43. Conferences with critic teacher					x			x					
53. Correlation				x								x	
57. Curriculum theory	x								x		x		
64. Discipline	x	x	x		x			x					
68. Econ. methods of learning		x						x		x	x		
77. Essay question				x	x			x		x	x		
80. Ethics			x		x		x						
82. Experience as a student teacher					x			x					
83. Eye movements in reading			x							x			x
92. Filing system	x		x		x			x			x		
101. General intelligence testing		x		x								x	x
107. Graphs and charts				x	x							x	x
117. Health service	x		x		x	x	x			x			
119. Hygiene, heating, lighting, etc.	x		x		x		x						
123. Individual differences	x	x	x	x	x		x			x			
128. Inductive method		x						x					x
129. Industrial Revolution						x	x	x	x				
143. Laws of learning		x						x			x		
144. Learning characteristics		x						x	x				
148. Lesson types	x				x			x					
149. Lesson planning for large unit	x				x			x			x		
150. Lesson planning for daily unit	x				x			x					
151. Library organization and control					x		x	x					
158. Management theories for class			x		x			x	x				
160. Marking systems	x	x	x		x			x					
161. Mastering subject for teaching					x			x			x		
166. Memory and forgetting		x											x
168. Mental hygiene for the teacher		x											x
187. New-type or objective questions	x			x	x			x		x	x		
188. Normal curve		x		x									x
189. Objectives in teaching				x				x					
192. Observations of teaching	x		x		x			x					
208. Personal traits and improvement		x	x		x	x		x					x
211. Philosophy for rural society						x		x					
215. Practice in taking standard tests				x									x
216. Preparing and writing your philosophy of education								x	x	x			

DUPLICATION CHART I (Concluded)

List of Topics	1	2	3	4	5	6	7	8	9	10	11	12	13
219. Preparing drill material				x	x			x			x		
220. Preparation of report on tests												x	
224. Problem method of teaching	x	x			x			x			x		
225. Professional improvement of teachers	x	x	x		x		x	x					
232. Project teaching	x	x			x			x					
243. Questioning	x		x		x			x					
252. Record forms	x		x		x		x	x					
253. Reliability of test scores													x
257. Retardation and acceleration				x	x	x		x				x	
264. Rural community centers				x					x				
267. Rural school children		x	x		x								
273. School plant standards			x				x						
280. Standard tests in your subject					x			x				x	
291. Standard tests for diagnostic teaching	x				x			x			x	x	
293. Standardization of rural school	x		x										
304. Supervision and teacher	x		x		x		x	x					
305. Supervising pupil study			x		x			x					
309. Teaching pupils to study	x	x						x		x			
314. Testing program for situation	x				x			x				x	
317. Thinking, reasoning, and problem solving		x						x	x				x
322. Transfer of training theories		x											x
324. Variability measures				x								x	
328. Jung, Adler, psychoanalysis		x											x
Total number of topics	25	22	22	18	36	6	11	40	7	7	14	10	15
Number of topics regularly placed in courses	9	11	9	11	8	3	5	0	1	0	2	3	7
Actual number of duplicated topics per course	16	11	13	7	28	3	6	40	6	7	12	7	14
Percentage of duplication per course	9.3	6	7	4	16	1.7	3.5	24	3.5	4	7	4	8
Total number of duplications	170												

This study was planned primarily for the four-year curricula, but the chart is so divided as to indicate the required courses in education, psychology, and sociology for the first two years. They are: (1) Principles of Teaching, (2) Elementary Educational Psychology, (3) Classroom Management, (4) Tests, Measurements, and Statistics, and (5) Student Teaching. The two-and-a-half-year curriculum includes the above five courses with the addition of (6) Sociology or Rural Sociology. The other courses of the four-year curriculum are: (7) Public School Administration, (8) Supervision, (9) History and Principles of Education, (10) Psychology of Elementary Education, (11) The Educational Program (The Curriculum), (12) Advanced Tests, Measurements, and Statistics, (13) Advanced Educational Psychology (elective).

The brief summary at the end of the chart is read as follows: For course No. 1, Principles of Teaching, 25 topics are reported;

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9 topics are given an arbitrary placement in this course; 16 topics are actually duplicated in other courses; these 16 duplicated topics represent 9.3 per cent of the entire duplication for all the courses. The same reading explanation applies for the other courses. Another view of the chart may be secured by reading from the topics across horizontally. For example, topic No. 21, Attention—individual and class group, occurs in courses numbered 2, 3, 5, 10, and 13, with an arbitrary placement of the topic indicated for course No. 3, Classroom Management.

A total of 170 duplications of topics are indicated. The range of duplication per course varies from 3 to 24 per cent. These findings must be taken only at face value, for nothing has yet been presented to determine the nature of these duplications, that is, whether they are helpful or unnecessary. The chart represents the status quo as a point of departure for further evaluation.

2. *To what extent is there repetition of topics in Curriculum C for high school teachers, principals, and special teachers?*

The organization of Duplication Chart II is similar to that of Chart I. The first two years of this four-year curriculum include only two required education courses: (1) Principles of Teaching, and (2) Elementary Educational Psychology. The two-and-a-half-year special curricula include the following additional courses: (3) Classroom Management, (4) Tests, Measurements, and Statistics, (5) Student Teaching, (6) Sociology or Rural Sociology. To complete the four-year curriculum, the student must also have: (7) Public School Administration, (8) Supervision, (9) History and Principles of Education, (10) Psychology of Secondary Education, (11) The Educational Program, (12) Advanced Tests, Measurements, and Statistics, and (13) Advanced Educational Psychology.

The last two years of Curricula A, B, and C are somewhat similar and four of the required courses are identical. The summary at the end of the chart is interpreted in the same way as described for Chart I. There are 188 duplications with a range in duplication per course of from 3 to 20 per cent. This number for duplications should not be confused with the actual number of duplicated topics per course as given in the charts. The duplications represent the same topic in several different courses.

DUPLICATION CHART II

DUPLICATION OF TOPICS IN THE REQUIRED AND ELECTIVE EDUCATION COURSES OF THE
 FOUR-YEAR C CURRICULUM FOR HIGH SCHOOL TEACHERS, PRINCIPALS, AND SPECIAL
 TEACHERS

(Data from the Curriculum Chart)

List of Topics Numbered as on the Master Check List	Principles of Teaching Elementary Educational Psychology Classroom Management Tests, Measurements, and Statistics Student Teaching Sociology (or Rural Sociology) Public School Admin- istration Supervision History and Principles of Education Psychology of Sec- ondary Education The Educational Program Advanced Tests, Meas- urements Advanced Educational Psychology												
	1	2	3	4	5	6	7	8	9	10	11	12	13
2. Adolescent and preadolescent traits .	x	x	x							x			
3. Aptitude tests .				x									x
10. Attendance laws .			x				x						
12. Behaviorism and educational implication .		x											
19. Central tendencies .				x			x						x
17. Characteristics of good teaching .	x				x			x	x				
17. Class group attention .		x	x					x				x	
13. Conferences with critic teacher .					x			x					
13. Correlation .				x									
16. Culture, the total acquired behavior .						x			x				
18. Democratic ideal in education .						x							
12. Discipline causes .			x		x			x					
13. Disciplinary control .			x		x			x					
18. Economy in learning .		x						x					
14. Emotion theories .	x	x								x		x	
16. E. Q. and the A. Q. .				x									x
7. Essay type question .	x			x	x			x			x		
10. Ethics of teaching .			x		x		x	x					
12. Experience as student teacher .					x			x					
16. Extracurricular activities: principles .			x		x	x				x			
18. Eye movements in reading .		x								x		x	
19. Fatigue and learning .	x	x								x		x	
12. Filing system .			x		x			x					
17. General intelligence and its measurement .		x								x		x	
7. Graphs .				x	x							x	
10. Habit formation .		x										x	
7. Health and recreation of teacher .			x				x		x			x	
2. Hygiene of classroom .			x				x						
3. Individual differences .	x	x	x	x	x		x					x	x
4. Individual instruction plan .		x					x	x					
8. Inductive teaching method .		x						x					
9. Industrial revolution .						x	x		x				
2. Instinct theories .		x				x				x			x
4. Junior-senior high school .		x					x		x				
2. Laws of learning and limits .		x						x					x
6. Learning process and curves .		x						x		x			
8. Lesson types .	x	x			x			x			x		
9. Lesson plan for large unit .					x			x		x			
10. Lesson plan for daily unit .		x			x			x					
7. Library organization .			x				x	x					

DUPLICATION CHART II (Concluded)

List of Topics	1	2	3	4	5	6	7	8	9	10	11	12	13
158. Management theories			x		x	x		x	x				
160. Marking plans	x	x	x		x			x					
161. Mastering subject to teach					x			x			x		
166. Memory and its improvement			x										x
168. Mental hygiene for teacher		x								x			x
173. Morrison's unit plan	x								x				
174. Motivation of conduct		x				x							x
187. New type tests	x			x	x			x		x	x	x	x
188. Normal curve		x		x									x
189. Objectives for your subject				x				x			x		
192. Observation of class teaching	x				x			x					
196. Origin and function of state						x	x						
208. Personality—measurement and improvement		x	x		x			x					x
215. Practice in taking standard tests				x								x	
216. Preparing your philosophy of education								x	x		x		
219. Preparing drill material				x	x			x			x		
220. Preparation of report on use of tests				x								x	
224. Problem method of teaching	x	x			x			x					
225. Professional growth of teachers	x		x		x	x	x	x					
230. Progressive education	x								x				
232. Project teaching—dangers and objections	x				x			x					
238. Punishments—nature and types			x		x					x			
241. Pupil rating scales				x	x								
243. Questioning and its improvement	x		x	x	x			x			x		
252. Record forms in use			x		x		x	x					
253. Reliability of test scores				x									x
257. Retardation and acceleration of pupils			x	x	x		x	x				x	
273. School plant janitorial standards			x				x						
289. Standard tests in your subject field				x	x			x				x	
291. Standard tests for diagnostic teaching	x			x							x	x	
298. Student teaching field trips					x			x		x			
303. Supervising pupil study	x		x		x			x					
309. Teaching pupils to study	x	x	x		x			x		x			
311. Teaching as a profession	x		x		x		x						
317. Thinking, reasoning		x						x					
320. Transfer of training		x								x			x
324. Variability measures				x								x	x
328. Jung, Adler, psychoanalysis		x											x
Total number of topics	25	26	26	20	34	9	16	38	10	13	10	17	22
Number of topics regularly placed in courses	13	15	14	15	8	3	2	0	3	1	0	2	2
Number duplicated topics	12	11	12	5	26	6	14	38	7	12	10	15	20
Percentage of duplication per course	6	6	6	3	14	3	7	20	4	6	5	8	11
Total number of duplications	188												

3. To what extent is there duplication within the same or related educational fields of Curricula A, B, and C?

In Table IX the education courses are arranged in six groups. The topic numbers, corresponding to those on the check list, show which topics are duplicated in each of the separate curricula and also those common to both the A and C Curricula. Using the

TABLE IX

 DUPLICATION OF TOPICS WITHIN THE SAME OR RELATED SUBJECT FIELDS FOR
 CURRICULA A AND C

(Data from Curriculum Charts)

Subject Fields Compared	Curricula A and B	Curriculum C	Curricula A, B, and C
1. Elementary psychology, advanced educational psychology, and psychology of elementary or secondary education	elementary 68, 166, 208	secondary 74, 110, 132, 142, 146	21, 88, 101, 123, 128, 166, 168, 188, 317, 322, 328
2. Elementary tests, measurements, and advanced course			53, 101, 107, 123, 187, 220, 257, 289, 291, 314, 324
3. Classroom management, student teaching, and supervision	267, 291, 304, 314	31, 37, 62, 63, 238, 241, 298, 311	77, 80, 92, 123, 151, 158, 160, 192, 208, 219, 224, 225, 243, 252, 257, 305, 309
4. Principles of teaching, classroom management, and public school administration	38, 111, 293, 304	20, 124, 134, 151, 160, 305, 311	123, 225, 243, 252, 257, 273
5. History and principles of education, sociology, and educational program	rural 57, 264	general 56, 58, 129, 158	216
6. Principles of teaching, educational psychology, and classroom management	21, 38, 64, 92, 111, 112, 192, 252	2, 74, 89, 124, 148, 305, 311	123, 128, 160, 208, 224, 243, 309
Total	21	31	53

third group for illustration, the table is read as follows: The three courses, Classroom Management, Student Teaching, and Supervision, have 4 topics in common for Curriculum A; 8 in common for Curriculum C; and 17 topics common to both curricula. The exact nature of these topics can be determined by consulting the corresponding numbers on the check list in the Appendix. Again for groups 1 and 2, there are 11 duplicated topics common to both curricula; group 3 has 17, group 4 has 6, group six, 7. The total for each column gives the following data: 21 duplicated topics in Curriculum A; 31 in Curriculum C; and 53 duplicated topics common to both. The data give no information regarding the nature of the duplication. It may be helpful

or it may be unnecessary. When groups of courses are compared the extent of the duplication becomes evident and offers a challenge for further inquiry.

The analysis so far suggests that instructors of such closely related courses as occur in the six groups may do well to coöperate in the choice of textbooks, the preparation of course outlines, and the required reference readings. Course prerequisites and changes could be based partly upon such evidence.

DUPLICATION OF TOPICS IN THE SPECIAL METHODS COURSES CONSIDERED SEPARATELY AND IN COMPARISON WITH THE EDUCATION COURSES

This study is concerned primarily with the duplication of topics offered in the education courses and not with the duplication of topics in the other subject matter fields. However, it was considered desirable to determine some of the duplications between the group of special methods courses and the education courses. The duplications within the special methods courses are also pointed out. A distinction should be drawn between a repeated topic and a professional topic as defined by Randolph [A 42]. The professional topic is included in methods courses or others to prepare the college student better for his later teaching or supervision. Professor Bagley has for some years made a plea for this type of teaching, as indicated by the following quotation:

. . . A comprehensive course in arithmetic, or in upper grade literature, or in intermediate grade geography—a course adapted to the capacities and attainments of collegiate students—should furnish, from the point of view both of subject matter and of method, an adequate, if not an ideal, equipment for teaching the subject. According to this plan, subject matter courses when thus thoroughly “professionalized” may well constitute the basis of each curriculum for the preparation of teachers, and the illogical abstraction of “method” from the subject matter to which it pertains may in this way be largely eliminated. This does not mean that subject matter courses should be limited to the materials that will appear in the later teaching programs of the student, but the first care should be that such materials are amply provided for. If curricula are specialized as was suggested in an earlier section, the subject matter can be covered very minutely and yet with fulness; and interpretations can be added that will ensure courses of exceptional value to the teacher. [A 33]

This point of view has also been expressed and developed by a number of writers in various subjects. The following are representative of this type: Billig¹ in elementary science, Cross² in English, Finley³ in biology, Lackey⁴ in introductory geography, Schaaf⁵ and Upton⁶ in arithmetic. This issue has furnished material for many reports and discussions in professional meetings as any cursory examination of their programs will disclose. In view of the importance of this question, some steps were taken to secure data and develop some tentative conclusions.

1. *To what extent are the special methods courses professionalized?*

Each subject field offering required special methods courses was analyzed in the same manner as were the education courses. The results of this preliminary survey are reproduced in Table X. The professional topics are those listed by Randolph [A 42]. They appear as the fifteen items in the left column of the table. An x under the subject matter field denotes the presence of the professional topic in that course. For example, "Study of the literature of the subject" occurs in arithmetic and English. A partial explanation for the absence of several professional topics is that the instructors are attempting to avoid unnecessary duplications with the education courses.

A further examination of Table X shows an average of but 5 out of a possible 15 or more professional topics per course. The emphasis is primarily and basically on review and mastery of the subject matter. The applications to teaching are somewhat marginal and incidental. Professor Bagley, in discussing this matter

¹ Billig, F. G. *A Technique for Developing Content for a Professional Course in Science for Teachers in Elementary School*. Contributions to Education No. 397. Bureau of Publications, Teachers College, Columbia University. 1930.

² Cross, E. A. *Fundamentals of English*. Macmillan. 1926.

³ Finley, C. W. *Biology in Secondary Schools and the Training of Biology Teachers*. Bureau of Publications, Teachers College, Columbia University. 1926.

⁴ Lackey, E. E. *A Method of Selecting and Evaluating Materials for a Course in Introductory Geography for Teachers College Students*. University of Nebraska Press, Lincoln, Nebraska. 1933.

⁵ Schaaf, W. L. *A Course for Teachers of Junior High School Mathematics*. Bureau of Publications, Teachers College, Columbia University. 1928.

⁶ Upton, C. B. "Professionalized Subject Matter in Arithmetic for Normal Schools." *Teachers College Record*, Nov. 1925. Bureau of Publications, Teachers College, Columbia University.

TABLE X

DISTRIBUTION OF PROFESSIONAL VARIANTS IN THE REQUIRED METHODS COURSES
OF CURRICULA A AND C

Professional Variants	Arith- metic	English	Geog- raphy	History	Language and Grammar
1. Present needs and practice ...			x	x	
2. Evaluation of textbooks					
3. History of subject					x
4. Development of teaching methods	x	x	x	x	x
5. Literature of subject	x	x			
6. Educational values					
7. Exercises in course making ...					
8. Psychology of subject					
9. Standard tests			x	x	
10. Specific difficulties	x	x			x
11. Comparison of courses					
12. Principles of selection of mate- rial			x		x
13. Inductive study of need		x	x		
14. Preparation of materials ...		x	x		
15. Observations of teaching	x	x	x	x	x
Total ..	4	6	7	4	5

further, makes the following statement which would seem to assist in clarifying the issues involved:

There is one type of "special methods" course, however, for which there will still remain a place. While "methods of arithmetic," "methods of grammar," "methods in geography," and similar titles should in time disappear from the catalogues of the normal school, replaced largely by "arithmetic," "grammar," "geography," and so forth, there should be courses that will definitely aim to coördinate all of the materials proposed for each specialized field. In most normal schools one now finds courses in "primary methods," and occasionally courses in "intermediate grade methods," "junior high school methods," "methods of high school teaching," and "rural school methods," each intended to unify in some measure the different types of work attempted on these various levels. Such courses represent the nearest approach to "special methods" courses that would be needed if the entire curriculum were professionalized. With subject matter courses organized as their appropriate method of exposition requires, these other courses would become essentially studies in the adaptation and sequence of this properly organized subject matter to a particular age or condition of childhood—curriculum courses as it were, within the individual subjects themselves.

Under the plan of differentiation proposed in an earlier section, each of these curriculum courses would be in one sense the central course, the keystone, of a specific curriculum. [A 33]

The evidence presented so far tends to indicate a need for revision and reorganization according to this point of view. Further evidence will be presented to confirm this assumption.

Professor Evenden [B 20] has made a similar plea for the professional treatment of the college courses as indicated by the following extracts from two of his articles:

If "professionalized subject matter courses" are to be made collegiate in quality (not merely renamed review courses) the teacher of these courses will require as much special study in his subject matter field as the average college teacher of that subject. In addition to this he should have a thorough knowledge of the educational elements involved in his courses such as: the elements of educational psychology which pertain to the teaching and learning of the subject; the history of the subject's development; various methods and devices for teaching it; and the experimental studies within the subject matter fields which have been or should be made. (p. 311)

In the following quotation from the same author the point is further emphasized:

There are several of these professional elements, however, which directly concern the training school and the critic teachers and which are the ones involved in the proposals to be presented for discussion. They are those elements in any subject matter course which have to do with the future application to teaching of the material being presented. . . . The teacher of any subject matter course—English, or history, or science, or music—must be conscious of the appropriateness of the material under discussion for children of various ages; he must know clearly the teaching and learning difficulties usually encountered in presenting this material in the different grade levels in which it is handled; he must be able to offer helpful suggestions on the method of presentation and the organization and supplementation of material.⁷

Judging from the contents of the two quotations and the small number of professional variants in the five subject fields, there appears to be a need for more effective application of this prin-

⁷ Evenden, E. S. "The Critic Teacher and the Professional Treatment of Subject Matter—A Challenge." *Educational Administration and Supervision*, May, 1929, p. 375.

ciple. The instruction carried on in any teachers college ought to be colored and guided largely by the professional point of view in all the subjects offered. If this is not done, the vocational character of the institution is jeopardized and its effectiveness is lessened.

2. *To what extent do the topics of all the required special methods courses duplicate those of the required education courses?*

A letter of explanation and a check list with special directions were sent to the head of each college department asking that each topic be checked which occurred in any special methods course and that a judgment be rendered as to the extent of the treatment given. The directions are given in Chapter II.

Since most of the professional variant topics were also included in this list of topics, the results of this survey of all special methods courses furnished a fairly complete basis for a real study of the duplications. The topics derived from this survey are collected in Table XI, which reveals the following interesting and challenging facts:

- a) Every topic listed for the special methods courses is also included in one or more of the education courses. Each one is numbered as on the master check list.
- b) Every starred topic occurs in two or more of the special methods courses. This includes 43 such topics.
- c) English combined with language and grammar furnishes 44 duplicated topics, geography 57, history 15, and mathematics, including arithmetic, 66.
- d) No evidence is presented thus far bearing on the desirability or undesirability of such extensive duplication. It does present a challenge to defend the present organization of courses.
- e) Professional topics appear confused with other less important topics in many lists.

This evidence further suggests a need for an orientation of the methods courses and the education courses. Such a study could be made a very thorough and extensive one providing the departments concerned cooperated with that end in view. Much of the duplication in the teacher-training curriculum may be explained by the indefinite relationship among these different courses.

TABLE XI

DUPLICATION OF TOPICS WITHIN THE SPECIAL METHODS COURSES AND IN COMPARISON WITH THE EDUCATION COURSES

Subject Field	Number of the Topic from the Check List	Total
1. English	*1, 4, *8, *15, *31, 38, *42, *52, *61, 75, 78, *80, 88, 101, *123, 138, 139, *141, 142, *148, *149, *150, 160, *185, *187, *188, *189, *192, *217, *224, *226, *231, *233, *242, *243, 248, *249, 266, *283, 285, *289, *299, 305, *309	44
2. Language and grammar		
3. Geography	*1, 2, *8, *15, 16, 27, *31, *32, *42, *52, *61, *68, 72, 77, *92, 98, 102, 103, 104, 110, 121, *123, 131, *133, 137, *148, *149, *150, 173, *176, *185, *187, *188, *189, 190, *191, *192, 204, *217, *224, *226, *231, *232, *233, *242, *243, *249, *251, 284, *289, 292, *298, *299, *309, *315, *317, *325	57
4. History	*1, *31, *32, 48, *80, *133, *226, *227, *231, *283, *299, 307, 308, *315, *325	15
5. Mathematics, including arithmetic	*1, 7, *8, 11, 12, *15, 29, *31, 41, 54, 57, *61, *68, *92, 97, 107, 112, 115, *123, 126, *133, *141, *148, *149, *150, 159, 161, 163, 164, *176, *185, *187, *188, *189, *191, *192, 199, 203, 210, 216, 219, 220, 221, 225, *226, *227, *231, *232, *233, 234, *242, *251, 253, 258, 261, 268, *289, 291, *298, *299, *309, 313, *315, *317, 322, *325	66
	Total	182
	Total number of topics starred	43
	Total number topics not starred	67

3. What topics are duplicated within the special methods courses?

Table XII gives a list and statement of all topics duplicated two or more times within the special methods fields. It is read as follows:

Topic 1. Administering and scoring of standard tests occurs, as indicated by an x, in English, geography, history, and mathematics.

Topic 7. Appreciation lesson occurs only in English and mathematics.

The summary at the end of the table shows 30 duplicated topics for English, 39 for geography, 12 for history, and 34 for mathematics. As an indication that some instructors are aware of unnecessary duplication, and are planning their course content definitely to avoid it, the following is quoted from a reply to the check list:

With a strong recommendation from me, the —— department decided on eliminating considerable subject matter from the —— methods courses which is obtained in practice teaching. It was decided to spend much of the time on organizing the material in textbooks in such a way that the students get a panoramic view of the important social developments and movements, especially those that the various authors consider proper to be taught in high schools. Our object was to give the students viewpoints that a critic cannot give in practice teaching classes, and omit that subject matter which a student naturally gets in actual practice teaching. For instance, there is no use wasting students' time talking about making assignments in a methods course when three terms or a whole year are given to the actual work of making assignments and teaching, and when the critic is spending much time discussing assignments.

The above statement implies a recognition of the fact that much subject matter is needed and that professional treatment should be given in other than methods courses, preferably in student teaching and certain other education courses. It assumes that certain duplications are wasteful and undesirable, but does not recognize the basic need for professionalization of subject matter courses as a part of the education of teachers. It is helpful to the student to have certain professional topics repeated, especially from different points of view. As the issue involves all the departments it becomes necessary for them to decide on a definite policy which can be consistently followed throughout the institution.

In arriving at such an understanding, a clear-cut distinction should be made between a professional topic and a topic that is not a strictly professional one but merely repeated. To illustrate, the first topic of Table XII, "Administering and scoring of standard tests," is a professional one and should have more intensive treatment in the different subject courses, especially the methods courses, than can be given in any single course in tests and measurements. Each additional experience of the student with the test work should furnish a new or different view instead of a review or a mere repetition of the same theory or technique. The same may be said of the topics, "Evaluation of textbooks," "The history of the subject," and others listed in Table X. Other examples of this difference in topics will readily occur to the reader as he looks over the list of Table XII.

This enrichment of certain topics through new views may be

TABLE XII

 A LIST OF THE TOPICS DUPLICATED TWO OR MORE TIMES WITHIN THE SPECIAL
METHODS FIELDS

Number and Topic From Master Check List	English, Language and Grammar	Geography	History	Mathemat- ics Including Arithmetic
1. Administering and scoring stand- ard tests	x	x	x	x
7. Appreciation lesson	x			x
8. Aptitude or prognosis tests	x	x		x
15. Assigning the lesson ..	x	x	x	x
31. Characteristics and functions of good teaching	x	x	x	x
32. Child-centered school ..		x	x	
42. Comprehension in reading and its improvement	x	x		
52. Course construction for elemen- tary or high school subjects ...	x	x		
61. Development lesson—inductive- deductive plan ..	x	x		x
68. Economical methods of learning		x		x
80. Ethics of the teaching profession	x		x	
92. Filing system of cards and folders for teaching materials		x		x
123. Individual differences in pupils .	x	x		x
133. Interest: how developed and maintained		x	x	x
141. Laws of association and satisfac- tion	x			x
148. Lesson types: review, drill, in- ductive	x	x		x
149. Lesson planning for large units .	x	x		x
150. Lesson planning for the daily unit	x	x		x
176. Motivation through the use of proper incentives		x		x
185. Need for testing in relation to teaching	x	x		x
187. New-type test questions, prepa- ration, use, and scoring	x	x		x
188. Normal curve—its interpretation and use	x	x		x
189. Objectives in teaching	x	x		x
191. Observation of children outside of classroom		x		x
192. Observation of class teaching ..	x	x		
217. Preparing specific objectives for teaching your subject	x	x		
224. Problem method of teaching ...	x	x		
226. Professional magazines or other reading for improvement	x	x	x	x

TABLE XII (Concluded)

Number and Topic From Master Check List	English, Language and Grammar	Geography	History	Mathematics, Including Arithmetic
227. Professional organizations for teachers			x	x
231. Projects and the project method of teaching	x	x	x	x
232. Project teaching: dangers and objections		x		x
233. Project types and examples	x	x		x
242. Questioning as a part of the teaching process	x	x		x
243. Questioning: types to use and improvement	x	x		
249. Reading objectives	x	x		
251. Recitation aims and plans		x		x
289. Standard tests in your subject ..	x	x		x
298. Student teaching field trips		x		x
299. Student teaching: learning to use library aids	x	x	x	x
309. Teaching pupils to study effectively	x	x		x
315. Textbook use and abuse		x	x	x
317. Thinking, reasoning, and problem solving		x		x
325. Visual aids in instruction ...		x	x	x
Total	30	39	12	34

considered as a spiral treatment which gradually adds to and strengthens a student's understanding and confidence in meeting problems of actual teaching or supervision. It means, though, that much of the reorganization and integration must be done by the student. The degree to which he is able to carry out this process will determine to a large extent his professional attitude, understanding, and appreciation of the work of teaching.

Summary of the Discussion. The following points have been suggested and indicate a need for further study: (1) To determine the exact nature and purpose of the professional topics and to give them a distinctly different treatment from that accorded the other topics of the methods courses; (2) to determine whether such a variety of special methods courses is needed or should be required in addition to the required general courses or methods of teaching in each of the different curricula; (3) to clarify the relationship between the various required special methods courses; (4) to clarify their relation to the education courses; (5) to study

the duplication of topics present in the methods courses; (6) to study the duplication of topics when the methods courses are compared with the education courses; and (7) to prepare definite outlines or syllabi for each course so that desirable duplications will be guaranteed and the unnecessary ones effectively eliminated.

These items seem of sufficient importance and extent to constitute the basis for an extensive and exhaustive separate study much beyond the limits of the time possible in the present one. Among the writers who have probably done more research work in this field than any others is Franzen [B 22]. He made an exhaustive study of the relationship between the general and special methods courses in an attempt to clarify the fields and to assist in the organization of courses which would eliminate the unnecessary repetitions and overlappings which otherwise are bound to occur. He furnishes working skeleton outlines to illustrate his proposed organization.

THE EXTENT AND NATURE OF THE REPETITION OF TOPICS AS REPORTED BY THE GRADUATES AND STUDENTS

Introductory Statement and Explanation. Table III (page 33) shows that 180 usable check lists were received from those who had studied Curriculum A or B for elementary teachers, principals, and supervisors or superintendents; 250 usable lists were received from those who had studied Curriculum C for high school teachers, principals, and special teachers. Of this 250, there were 43 from the junior and senior classes, which were not used in tabulations for the repetition of topics. Hence the number used was reduced to 207.

The former group of 180 elementary teachers divided logically into two sub-groups: 150 two-year and two-and-a-half-year, and 30 four-year graduates. The 150 consisted of 52 lower grade, 37 upper grade, and 71 all grade graduates. These represent certain differentiations in several courses with many identical topics, and several identical courses. An analysis of these courses reveals more similarities than significant differences for the first two years of the four-year curriculum. Courses for the last two years are almost identical in content with the same elective privileges for each of the three groups in general. The nature of these similarities and differences is given in the following:

1. Principles of Teaching for the three groups has certain special topics for the various levels but more topics in common. The principles of teaching and learning are practically the same on all levels. The upper grade group, especially those students who are interested in the junior high school, are placed with the students taking Curriculum C for high school teachers.
2. Classroom Management is the same course for the lower and upper grade group with some changes for the all grade group.
3. Elementary Psychology is an identical course for all the groups.
4. Student Teaching is conducted in the training school, in the academy, and in several rural schools. Needless to say, the topics studied are in general the same with applications somewhat different on the various levels.
5. For Sociology, the same elective privileges are offered for the lower and upper grade groups. In the two-and-a-half-year all grade group, the rural sociology is required.
6. Tests, Measurements, and Statistics is an identical course.

It should be evident now that for purposes of tabulation, any further separation or classification of the 150 elementary teachers would be somewhat artificial and an overemphasis of minor distinctions which should perhaps be stressed even less than they are. Furthermore, the numbers would be so reduced in size as to make the results questionable and more unreliable. By retaining the group of 150, the actual numbers used range from 1 to 144 for the three categories from which the percentages are figured for the kind of repetition reported. The writer felt justified, therefore, in retaining in one group the 150 two-year and two-and-a-half-year graduates so that a larger number could be used. The 30 four-year graduates were kept separate for the time being. This group could not logically be placed with the 150 two-year graduates, as the number of required courses is almost double in the four-year course. This would distort the findings for a study of the nature of the repetition of topics. It was necessary to present the tabulations in two groups of 150 and 30. A number of comparisons are made between them, the reliability of which can still be questioned because of the small number in the latter group. The data for the 207 graduates of Curriculum C are presented in a separate tabulation.

Table XIII reports findings for the 150 two-year and two-and-a-half-year graduates of Curriculum A; Table XIV reports findings for the 30 four-year Curriculum A; Table XV for the 207

four-year Curriculum C. Because of their bulkiness, these tables are reproduced here only in part. They represent the original tabulations from which the other tables were constructed.* Each table is read as follows:

In Table XIII, topic 1 occurs in two courses; 144 reported having had this topic in one or more courses; 102 of this 144 reported helpful repetition of this topic in courses. The 3 indicates that the percentile rank is between 50 and 75. No repetition was reported by 28. The 1 indicates a percentile rank below 25. Unnecessary repetition was reported by 14.

The numbers 1, 2, 3, and 4 occurring after the topics in the three columns are based on the percentage of students who reported in the different categories. By using the number of individuals who actually had the topic as the base (which of course changes with each topic) one eliminates the error due to minor differences in certain courses and choice in electives. Only those who actually had the topic are qualified to render a decision regarding the nature of the repetition. The calculations are as follows:

102/144 reduces to 71% or 3 (50-74%)

28/144 reduces to 19% or 1 (1-24%)

14/144 reduces to 10% or 1

Hence the numbers, 4, 3, 2, and 1 stand for percentage ranges of students reporting:

4	75-100%
3	50-74.99%
2	25-49.99%
1	1-24.99%

In certain tables the topics ranking below the 50th percentile, or in groups 1 and 2, are not reported. They are considered of little value so far as reliability is concerned. The topics ranking above the 50th percentile, or in groups 3 and 4, are more valuable for reliable decisions and conclusions. We shall now consider the specific questions concerning repetition.

1. *What is the extent of helpful repetition in Curriculum A?*

Table XVI for Curriculum A groups the topics into fourteen types, with the number of the topics for each type arranged according to two percentile ranges—50 to 74 per cent, and 75 to

* The original and complete tables may be examined by anyone interested if he will arrange with the writer.

TABLE XIII

NATURE OF THE DUPLICATION OF TOPICS IN CURRICULUM A, AS REPORTED BY THE GRADUATES AND STUDENTS WHOSE REPLIES WERE USED

Number and Topic	Frequency of Topic in Courses	Number Reported Having Topic	Helpful Repetition		No Repetition		Unnecessary Repetition	
			<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>
1. Administering and scoring standard tests	2	144	102	3	28	1	14	1
2. Adolescence and preadolescence	1	135	101	3	25	1	19	1
3. Agencies of social control ..	1	119	74	3	35	2	10	1
4. Aims of education	3	147	117	4	6	1	24	1
111. Health service	6	106	74	3	25	1	7	1
112. Hygiene of heating, lighting, etc.	4	132	77	3	35	2	20	1
113. Historical sources of educational psychology	1	44	13	2	28	3	3	1
114. History teaching—psychology of	1	97	38	2	56	3	3	1
115. History of the testing movement	1	68	18	2	44	3	6	1
221. Present tendencies in American education	1	76	34	2	37	2	5	1
224. Problem method of teaching	4	130	98	4	24	1	8	1
225. Professional improvement of teacher	5	115	87	4	25	1	3	1
267. Rural school pupils	3	64	35	3	24	2	5	1
278. Sensations and feelings ..	1	110	54	2	46	2	10	1
283. Socializing the class procedure	1	126	92	3	24	1	10	1
293. Standardization of rural schools	2	61	26	2	30	2	5	1
304. Supervision and the teacher ..	5	74	30	3	22	2	2	1
311. Teaching as a profession ..	2	123	87	3	29	1	7	1
322. Transfer of training theories	2	65	49	4	11	1	5	1

100 per cent. The first two columns to the left include those topics reported in both the two-year and the four-year A Curricula. There are 104 such topics for the 50 to 74 percentile range, or 31.7 per cent of all topics. There are 47 topics in the 75 to 100 percentile range, or 14.3 per cent of all topics. These two groups combined give 151 topics (or 46 per cent of the 328 topics of the check list) considered as helpfully repeated by half or more of those graduates and students who reported having had these topics in courses. This is significant, especially when one considers that it represents the identical topics reported in both the two-year and the four-year curricula.

The four-year A Curriculum contains more education courses

TABLE XIV

NATURE OF THE REPETITION OF TOPICS AS REPORTED BY THE 30 FOUR-YEAR GRADUATES OF CURRICULUM A (SAMPLE OF COMPLETE TABLE)

Number and Topic	Frequency of Topic in Courses	Number Reported Having Topic	Helpful Repetition		No Repetition		Unnecessary Repetition	
			f	r	f	r	f	r
1. Administering and scoring standard tests	2	20	20	3	3	1	6	1
2. Adolescent and preadolescent characteristics	1	30	20	3	1	1	0	2
3. Agencies of social control	1	30	20	3	4	1	6	1
4. Aims of education	3	30	24	4	1	1	5	1
5. Alexandrian period in education	1	20	0	0	18	4	2	1
111. Health service administration	6	20	14	3	4	1	2	1
112. Hygiene of heating, ventilation, etc.	4	29	19	3	6	1	4	1
113. Historical sources of an educational psychology	1	23	5	1	12	3	6	2
114. History teaching: psychology of	1	25	5	1	19	4	1	1
115. History of the testing movement	1	23	4	1	15	3	4	1
221. Present tendencies in American secondary education	1	21	9	2	12	3	0	0
222. Principal of the high school	1	16	1	1	14	4	1	1
223. Principles and problems in administering small school	1	19	4	1	14	3	1	1
224. Problem method of teaching	4	27	21	4	3	1	3	1
225. Professional improvement of the teacher	5	24	21	4*	2	1	1	1
276. Scoring plans for new type tests	1	22	8	2	11	3	3	1
280. Social control through a balance of forces	1	21	10	2	10	2	1	1
321. Town, township, county, organization	1	20	4	1	15	4	1	1
322. Transfer of training theories	2	25	14	3	5	1	6	1

than the two-year curriculum, and one would expect that more of the topics would be reported as repeated. The two right-hand columns give data for the four-year curriculum. There were 17 topics reported in the 50 to 74 percentile range exclusive of those previously mentioned in the other columns, and 2 topics for the 75 to 100 percentile range. This gives 19 topics reported exclusively for the four-year A group. By counting in those reported in common with the two-year curriculum, we have a total of 170, or 51.8 per cent of the 328 topics of the check list. In

TABLE XV

NATURE OF THE REPETITION OF TOPICS FOR THE FOUR-YEAR CURRICULUM C AS REPORTED BY THE GRADUATES AND STUDENTS

Number and Topic	Frequency of Topic in Courses	Number Reported Having Topic	Helpful Repetition		No Repetition		Unnecessary Repetition	
			f	r	f	r	f	r
1. Administering and scoring standard tests	2	202	130	3	44	1	28	1
2. Adolescent and preadolescent characteristics	4	204	136	3	20	1	48	1
3. Agencies of social control .	1	185	115	3	64	2	6	1
4. Aims of education	2	204	148	3	12	1	44	1
32. Child-centered school	1	140	64	2	59	2	17	1
62. Discipline problems	3	194	157	4	16	1	21	1
110. Habit as a goal in learning	4	191	124	3	34	1	33	1
111. Health service	3	167	111	3	47	2	9	1
121. Incentives useful in class management	1	189	136	3	40	1	13	1
123. Individual differences in pupils ..	8	202	162	4	17	1	23	1
129. Industrial revolution and rise of science	3	157	68	2	62	2	27	1
133. Interest—how developed and maintained	1	194	148	4	38	1	8	1
148. Lesson types, review, etc.	5	194	129	3	31	1	34	1
159. Mental Age and I.Q.	1	199	118	3	38	1	43	1
167. Mastering the subject for student teaching	3	182	131	3	37	1	14	1
164. Mathematics difficulties and how analyzed	1	77	25	2	46	3	6	1
189. Objectives in teaching ...	3	204	156	4	11	1	37	1
224. Problem method of teaching	5	187	128	3	44	1	15	1
227. Professional organizations for teachers	2	158	94	3	57	2	7	1
262. Routine in relation to disciplinary control	1	171	95	3	56	2	20	1

other words, about one-half of Curriculum A is considered helpfully repeated. If we add the 112 topics included between the 25th and 49th percentiles (which are not shown in Table XVI), we get a total of 282 topics, or 85.9 per cent of all topics, reported as helpful repetition.

2. *What is the nature of the topics ranked high in helpful repetition for Curriculum A?*

An examination of Tables XVI and XVII shows that the topics have been divided into fourteen groups. This classification is similar to the one used by Osburn [B 42] in his analysis and classification of topics and questions in an exhaustive study

TABLE XVI

 CLASSIFICATION AND RANK OF TOPICS REPORTED AS HELPFUL REPETITION FOR
 CURRICULUM A INCLUDING THE TWO- AND THE FOUR-YEAR DIVISIONS

(Data from Tables XIII and XIV)

Type of Topic	Number of Topics Common to the 2-, 2½- and 4-year Curricula		Number of Topics Reported Only for the 4-year Curriculum	
	(a) 50%-74%	(4) 75%-100%	(a) 50%-74%	75%-100%
1. Advantages and disadvantages	2	0	1	0
2. Arguments	0	0	0	0
3. Cause and effect	4	3	1	0
4. Comparison	0	0	0	0
5. Conditions	3	1	1	0
6. Evidence	0	0	0	0
7. Functional relationship ...	9	8	1	0
8. Illustration	26	12	2	1
9. Major facts	22	2	3	0
10. Manner	28	11	4	1
11. Meaning-definition	5	1	4	0
12. Principles and objectives .	5	8	0	0
13. Rules and laws	0	1	0	0
14. Trends	0	0	0	0
Total	104	47	17	2

of the public school curriculum and in another study of three textbooks in the Principles of Teaching.

The use of this classification makes it possible to group the topics for further study of their nature even though such a classification is not entirely satisfactory. For example, type 8, Illustration, overlaps type 9, Major facts, and type 10, Manner. The same criticism may be made of type 3, Cause and effect, which overlaps type 7, Functional relationship. Any classification, though, would be subject to certain criticisms and similar limitations because of the nature and variety of the concepts required to include the 328 topics of the check list. Hence, this plan is probably as useful as any other for purposes of classification. Therefore each topic of the check list was assigned a type number from 1 to 14, and in a few cases it was also given a secondary classification. For an illustration, topic 3, Agencies of social control, was called type 9, Major facts, but it may also fall under type 8, Illustration; likewise topic 4, Aims of education, was assigned to type 12, Principles and objectives, and may also be placed under type 10, Manner. Other illustrations

will readily occur to the reader as he looks through the list of topics used.

For Curriculum A, the largest number of topics considered helpfully repeated by 75-100 per cent are of the following types: Illustration, Manner, Principles or objectives. Adding those topics rating between the 50th and 74th percentile, we include Major facts, Functional relationship, and Cause and effect.

Examples of topics from type 8, Illustration, considered helpfully repeated by 75-100 per cent of the replies:

No. 64. Disciplinary control and punishments.

82. Experience of student teaching.

149. Lesson planning for the large, comprehensive unit.

192. Observation of teaching.

224. Problem method of teaching.

According to the strict interpretation of our definition for repetition, when subject matter is presented or discussed quite similarly in more than one course, some of the above topics are of such a professional nature that emphasis on different points of view or even mere repetition could be considered useful by the student. This may be made more evident by recalling that an illustration, when clearly worked out and interestingly presented, is usually an effective teaching device. It could probably be more widely used in college teaching. As Sir John Adams has well said:

. . . An illustration may introduce new ideas, but these are not in this connection treated as of importance in themselves, but only as throwing light upon the ideas that are at the time being expounded. . . . But our object is not always to make another understand something. It may be to make him realize more vividly, to appreciate, to enjoy. We must, therefore, make provision for the esthetic use of illustration. . . .⁸

This writer is not unmindful of the dangers in the use of illustration, for he says⁹:

There is a strong temptation to use it for the sake of its own intrinsic interest, instead of for the interest it arouses in connection

⁸ Adams, Sir John, *Exposition and Illustration in Teaching*, pp. 19-22. The Macmillan Co., 1910. Any teacher will be well repaid for reading this book rather carefully and applying some of the ideas set forth for more effective teaching.

⁹ *Ibid.*, pp. 19-22.

with the subject under discussion. Unless an illustration forms part of the very nature of a lesson, unless it is worked into the very warp and woof of the whole, it is illegitimate. An illustration must not be used as a sedative, its function is to stimulate. . . .

As a method of effective teaching, illustration can be very useful if not overdone.

Examples of topics from type 10, Manner, considered helpfully repeated by 75-100 per cent:

- No. 37. Class group attention and its improvement.
- 133. Interest: how developed and maintained.
- 161. Mastering subject matter for student teaching.
- 225. Professional improvement of the teacher and growth in service.

The above topics could probably be classified under the illustration type. Treatment of these topics is largely in answer to the student's questions: "How is it done?" "What manner of procedure is required?" It is an emphasis on the practical, the utilitarian, the methods side of the teaching process, in contrast to the illustration type which answers the demand for explanation, examples, or a clarification of ideas. Teachers consider the Manner type of repetition very helpful and useful. This may be due partly to the predominance of the two-year and two-and-a-half-year curricula graduates, whose courses must be more limited in scope and must emphasize the directly useful as much as possible within the brief period of time given to their preparation.

Examples of topics from type 9, Major facts, considered helpfully repeated by 50-74 per cent:

- No. 3. Agencies of social control.
- 47. Connecting mechanism, the nervous system.
- 74. Emotion, theories and control.
- 108. Growth periods of the child.
- 112. Hygiene of heating, lighting, and ventilation.
- 227. Professional organizations for teachers.
- 285. Socialized recitation types, aims, and values.
- 308. Supervised study methods and difficulties.

This type is absent in the (4) 75-100 percentile group, with the exception of number 43 in both curricula, 307 in the two-year, and 209, 234, 302, 308, and 311 in the four-year cur-

riculum. This evidence tends to indicate that less repetition is needed for such facts to be mastered in courses. In the planning of an outline for a course, such topics or unit divisions should probably be given less relative time and perhaps only secondary treatment in related courses. Such a plan will conserve time for the topics which need exhaustive treatment or require the mastery of principles or the development of attitudes and appreciations.

Examples of topics from type 12, Principles and objectives, which were considered helpfully repeated by 75-100 per cent are as follows:

- No. 4. Aims of education: elementary or secondary.
 - 110. Habit as a goal in learning.
 - 123. Individual differences in pupils: physical, mental, and social.
 - 142. Laws of learning.
 - 189. Objectives of teaching.
 - 217. Preparing specific objectives for teaching your subject.

The above topics embody an abstract principle, concept, or generalization which needs in many cases an inductive-deductive treatment; in other cases the use of varied subject matter, illustrations, and exposition.

Examples of topics from type 7, Functional relationship, considered helpfully repeated by 75-100 per cent:

- No. 31. Characteristics and functions of good teaching.
- 33. Child nature in classroom management.
- 53. Correlation.
- 63. Disciplinary control by preventative methods.
- 176. Motivation through use of proper incentives.
- 306. Supervised study in relation to other types of class management.

The topics from type 3, Cause and effect, reported helpfully repeated by 75-100 per cent are:

- No. 48. Constructive or preventative aspects of discipline.
- 62. Discipline causes and problems.
- 72. Efficiency in work; causes, conditions, and factors influencing it.
- 319. Types of motives in reasoning.

The small number of cause and effect topics reported probably

indicates that this type is not an especially difficult one. Twenty topics of the check list are of this type.

3. *What is the extent of the topics reported as "no repetition" for Curriculum A?*

Table XVII gives the data for the two-year, the two-and-a-half-year, and the four-year curricula combined, or those topics reported in all three of the curricula. It shows a total of 75 topics, or 23 per cent of the total number, included in the range between the 50th and the 74th percentiles. Above the 74th percentile only 3 topics are included, which bring the total to 78 or 23.7 per cent. Adding the 59 topics reported exclusively for the four-year group, we have 137 topics, or 41.7 per cent of the 328.

4. *What is the nature of the topics reported as "no repetition" for Curriculum A?*

An examination of Table XVII indicates that the largest number of topics are reported for type 9, Major facts; then in decreasing order are: type 11, Meanings; type 10, Manner; type 8, Illustrations; and type 5, Conditions. Examples of these types have been previously given.

TABLE XVII

CLASSIFICATION OF TOPICS REPORTED AS NO REPETITION FOR CURRICULUM A
(Data from Tables XIII and XIV)

Type of Topic	Number of Topics Common to the 2-, 2½-, and 4-year Curricula		Number of Topics Reported Only for the 4-year Curricula	
	(3) 50%-74%	(4) 75%-100%	(3) 50%-74%	(4) 75%-100%
1. Advantages and disadvantages	3	0	1	0
3. Cause and effect	3	0	2	0
4. Comparison	1	0	0	0
5. Conditions	3	0	5	0
7. Functional relationship .	3	0	0	2
8. Illustration	4	0	6	3
9. Major facts	27	3	18	7
10. Manner	12	0	6	1
11. Meanings or definitions .	17	0	3	0
12. Principles and objectives	0	0	1	2
13. Rules and laws	2	0	1	0
14. Trends	0	0	1	0
Total	75	3	44	15

5. *What is the extent of the topics reported as unnecessary repetition in Curriculum A?*

Table XVIII indicates in column 1 a range of 10 to 24 per cent of graduates reporting for the two-year and the two-and-a-half-year curricula. Topics rated between 10 and 24 per cent only are included in this column. This is a low range for consideration, but as no other topics (except one) were reported by more than 50 per cent for unnecessary repetition, it was thought best to include both groupings. It is quite possible that some selective factors operated to reduce this number. This first range includes but 35 topics, or 10.6 per cent of the total four-year course. This is probably to be expected, for the shorter curricula contain the minimum essential courses, varied in character and differing in content to give the essentials in such a brief period of time for training. Column 2 shows 53 topics common to the four-year and the shorter curricula, or 16.1 per cent of the total topics. The third and the fourth columns give the topics reported only for the four-year curricula by the two percentage groups. By combining columns 2, 3, and 4 to include those topics whose ranking is in group 1 or 2, we have 119 topics, or 36 per cent of the total A Curriculum. If we include also the 35 topics from column 1, we increase the total to 154, or 46.9 per cent of all topics. Does this indicate a serious problem of unnecessary duplication, or not?

The data tend to indicate, as far as one-fourth of the graduates are concerned, that a rather serious problem of unnecessary duplication exists in the four-year A Curriculum. There are, however, two limiting factors to this statement. In the first place, we have only 30 replies for the four-year A Curriculum, which is a small number from which to derive reliable conclusions. In the second place, we have a group of 35 topics reported only in the two-year and the two-and-a-half-year curricula. Leaving these out of consideration, we have 119 topics for the four-year curricula. This is 36 per cent of the total. Repetition in the four-year course is probably more serious than in the shorter courses. The latter have 88 topics, or 27 per cent of the total. The situation at least suggests the question whether the additional amount of time used in unnecessary repetition may better be spent in other ways, such as on subject matter for teaching, in orientation courses, or on other necessary courses organized to meet better the needs of this upper group. It raises the question

whether all courses are organized to meet the needs of the superior group—assuming that this group finds the most unnecessary repetition—or whether the courses are planned largely for the majority level of intelligence. This latter group is represented by the B- to B inclusive grade and includes 81.61 per cent of those who sent in usable replies according to the data in Table VI. This same table shows that the A- to A group includes only 16.97 per cent of all those whose check lists were used.

TABLE XVIII
CLASSIFICATION OF TOPICS REPORTED AS UNNECESSARY REPETITION IN
CURRICULUM A

(Data from Tables XIII and XIV)

Type of Topic	Number of Topics in 2- and 2½-year Curricula (1) 10%-24%	Number of Topics in 2, 2½-, and 4-year Curricula (2) 10%-24%	Topics Reported Only in the Four-year Curricula.	
			(3) 10%-24%	(4) 25%-49%
1. Advantages and disadvantages	2	2	2	0
2. Arguments	0	0	0	1
3. Cause and effect	2	2	4	0
4. Comparison	0	1	0	0
5. Conditions	1	0	3	0
7. Functional relationship	4	3	6	0
8. Illustration	4	14	14	0
9. Major facts	8	14	14	1
10. Manner	7	8	13	0
11. Meaning or definition	4	7	3	0
12. Principles or objectives	2	1	3	0
13. Rules and laws	1	1	1	1
Total	35	53	63	3

6. *What is the nature of the topics reported as unnecessary repetition for Curriculum A?*

An examination of Table XVIII shows that the most wasteful duplication, according to the judgment of approximately one fourth of the graduates and students who had the topics, was of the following types: Major facts, with 37 topics or 11.2 per cent; then in descending order, type 8, Illustration, with 32 topics or 10 per cent; type 10, Manner, with 28 topics or 8.5 per cent; type 11, Meanings, with 14 topics or 4.2 per cent; and type 7, Functional relationship, with 13 topics or 4- per cent. Examples of these types may clarify their nature and content.

Examples of type 9, Major facts, are:

- No. 20. Attendance school laws and census.
- 35. City school district.
- 47. Connecting mechanism—the nervous system.
- 106. Grading and promotion of pupils.
- 112. Hygiene of heating, lighting, and ventilation.
- 115. History of the testing movement.
- 195. Oriental world and education in their folkways.
- 210. Pestalozzi and his influence on education.
- 214. Play and playground equipment.
- 245. Rating scales, charts, etc., in evaluation of teaching.
- 267. Rural school pupils—nature and characteristics.
- 287. Sophists—beliefs and proposals.
- 293. Standardization of rural schools.
- 308. Supervised study methods and difficulties.

This list includes facts and purely assimilative material which require but little repetition in other classes. Such facts once called to the attention of the student can be reviewed at his own discretion and inclination. They can be used incidentally in other classes but need hardly be a regular part of the course of study.

Some typical examples of type 10, Manner, are:

- No. 54. Criteria for choosing tests.
- 55. Criteria for evaluating routine.
- 77. Essay questions: improvement and limitations for testing.
- 101. General intelligence testing—use and limitations.
- 126. Individual needs discovered by standard tests and results graphed or analyzed.
- 146. Learning curve—its construction and use.
- 172. Methods useful for measurement of socialization.
- 219. Preparing practice or drill material for pupils.
- 241. Pupil rating scales—their use and limitations.
- 276. Scoring plans for the new type tests.
- 292. Standard tests used as a measure of teaching efficiency.
- 324. Variability measures—standard deviation and probable error.

The other types, Meanings, and Functional relationships, have such a small number as to be almost negligible in the present analysis for unnecessary repetition. They appear later in larger numbers as helpful repetition topics. The same is true of other topics.

The following topics will represent those from type 8, Illustrations:

- No. 8. Aptitude or prognosis tests.
 29. Central tendency measures: mean and median.
 61. Development lesson: induction and deduction.
 64. Disciplinary control—punishments.
 87. Extra-curricular clubs described.
 121. Incentives useful in class management.
 160. Marking systems in common use.
 188. Normal curve—interpretation and use.
 231. Projects and the project method of teaching.
 242. Questioning as a part of the teaching process.
 290. Standard tests used for classification or promotion.
 313. Testing reports based on Freshman tests or on others.

A number of the above topics were also reported for helpful repetition by more than half of the graduates who had the topics. This is true for numbers 1, 29, 52, 57, 61, 121, 124, 148, 160, 188, 224, 242, 259, 283, 290, 291, etc. This evidence suggests that the nature of the repetition of topics may be a result of general intelligence, previous background of experience in teaching or other professional work, methods of instruction used, amount and quality of reference reading required, and the personality of the teacher conducting the course. These problems would each furnish the basis for separate research studies on the college level.

7. *What is the extent of helpful repetition of the topics in the four-year C Curriculum for high school teachers, principals, and special teachers?*

In Table XIX the topics for Curriculum C are organized according to the fourteen types shown in Tables XVII and XVIII for Curriculum A. Table XIX shows only those topics reported by 50 per cent or more of the graduates as having been helpfully repeated. This list includes 133 topics rating between the 50th and 74th percentile, or 40.5 per cent of the 328 topics; and 17 topics rating above the 75th percentile, or 5.1 per cent of the total. Adding both groups to include all topics above the 50th percentile we have 150 topics, or 45.7 per cent of the total—almost half of Curriculum C—considered helpfully repeated by half or more of the graduates who had the topics. Adding the 146 topics rating between the 25th and the 49th percentile (from

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Table XV and summarized in Table XXIII), we get a total of 296 topics, or 90.2 per cent of the curriculum, considered helpfully repeated by at least a fourth or more of the 207 graduates who had these topics in courses.

Referring to Duplication Chart II for the C Curriculum (page 45 f.), we have a total of 78 duplicated topics, according to the analysis of courses.

TABLE XIX
CLASSIFICATION AND RANK OF TOPICS REPORTED AS HELPFUL REPETITION FOR
CURRICULUM C
(Data from Table XV)

Type of Topic	Number of Topics Rated by (3) 50%-74%	Number of Topics Rated by (4) 75%-100%
1. Advantages and disadvantages	2	0
3. Cause and effect	6	1
5. Conditions	2	0
7. Functional relationship	15	3
8. Illustration	28	6
9. Major facts	25	1
10. Manner	36	3
11. Meanings—definitions	7	1
12. Principles and objectives	10	2
13. Rules and laws	1	0
14. Trends	1	0
Total	133	17

In addition to these topics taken from Duplication Chart II, the graduates have reported a list of 82 topics as helpfully repeated. A study and classification of these topics for courses gives the following distribution:

Principles of Teaching	22
Educational Psychology	21
Classroom Management	17
Sociology	10
Tests, Measurements, and Statistics	5
History and Principles of Education	3
Public School Administration	2
The Educational Program—Curriculum	2
Total	82

Some possible explanations for this apparently large amount of helpful duplication reported by graduates in addition to that

determined by the course analyses follow. (1) A number of students begin the two-year or two-and-a-half-year curriculum for elementary or special teachers and later transfer to the full four-year C Curriculum for high school teachers. A number of these topics are given in the junior program and represent differentiations in courses. (2) It is probable that the college instructors are constantly using topics from courses as listed above which include especially principles of teaching, educational psychology, and classroom management—all essential and core subjects in the education of teachers. Such topics may be used as a part of the class discussion or occur in reference readings. They may not be listed as a regular part of the certified outlines of courses on which the analysis for duplications was based. (3) There may be sufficient variation in individual differences of students to require additional treatment or explanations, applications, and the like, as the occasion occurs in the different classes. This suggests the possibility of helpful repetition being a result of general intelligence levels rather than course organization.

8. *What is the nature of the topics ranked high in helpful repetition for Curriculum C?*

Table XIX shows that for the range from 75 per cent to 100 per cent the following types of topics are included: Illustrations, Manner, and Functional relationship. For the topics between the 50th and the 74th percentile the types are: Manner, Illustrations, Major facts, and Functional relationship; with Principles, Meanings, and Cause and effect registering lower. Combining the two groups, the order in decreasing occurrence is as follows: Manner, Illustrations, Major facts, Functional relationships, Principles and objectives. Some examples will be given to illustrate these types. As several of these topics also occurred in Curriculum A and were used as illustrations in answering similar questions, other topics will be chosen at this time.

As examples of type 10, Manner, the following are given:

- No. 30. Character, conduct, and citizenship training.
- 42. Comprehension in reading and its improvement.
- 54. Criteria for choosing tests.
- 68. Economical methods of learning.
- 77. Essay questions—improvement and limitations for testing.

- 125. Individuality—tests and measures of.
- 157. Management of first day routine in teaching.
- 166. Memory and forgetting—nature and training.
- 187. New-type test questions: their preparation, use, and scoring.
- 208. Personal traits: their alteration or improvement.
- 219. Preparing practice or drill material for pupils.
- 276. Scoring plans for the new-type tests.
- 292. Standard tests used as a measure of teaching efficiency.
- 299. Student teaching: learning to use library aids and professional magazines.

As the reader will again observe, the above topics are largely those dealing with methods of teaching, organization, testing, character development, and the application of psychological laws or principles. The emphasis is on method and technique—how to get things accomplished. Apparently many of the topics from the courses in Classroom Management, Educational Psychology, Principles of Teaching, and Testing can bear considerable repetition in different courses.

As examples of type 8, Illustrations, the following will be of service:

- No. 1. Administering and scoring standard tests.
- 7. Appreciation lesson—nature and plan.
- 57. Curriculum—theories and practices.
- 61. Development lesson—inductive—deductive technique.
- 84. Experiments in learning.
- 107. Graphs—their construction and use in the teaching process.
- 121. Incentives useful in class management.
- 190. Object lesson and laboratory method.
- 207. Personal problems of the teacher in relation to the community.
- 215. Practice in taking standard tests.
- 231. Projects and the project method of teaching.
- 233. Project types and examples.
- 238. Punishments—effective and ineffective types.
- 242. Questioning as a part of the teaching process.
- 259. Reviews and reorganization lessons.
- 289. Standard tests in your subject.
- 291. Standard tests for individual or group diagnosis and a remedial teaching program.
- 316. Thinking types and their improvement.
- 325. Visual aids in instruction.

Each of the above topics, including those given in the discussion of Curriculum A, attempts to clarify or apply some principle, technique, or concept. As stated before, they may be also considered as of type 10, Manner, but they seemed to the writer a better example of type 8, Illustrations.

As examples of type 9, Major facts, here are presented some of the topics listed:

- No. 2. Adolescent and preadolescent characteristics.
- 14. Articulation problems of elementary and high school.
- 78. Ethics of student teaching.
- 106. Grading and promotion of pupils by subjects and grades.
- 209. Personal traits of the teacher and their measurement.
- 234. Psychology of the learning process.
- 245. Rating scales, charts, etc., in the evaluation of teaching.
- 278. Sensations and feelings.
- 307. Supervised study in relation to the assignment.
- 311. Teaching as a profession.
- 312. Teachers' meetings and committee work.
- 320. Thrift for teacher and pupil.

Only one topic, No. 43, Conferences with critic teacher, appeared in the group above the 75th percentile; the others all rated above the 50th and below the 75th percentile. This ought to be taken into account in the organization of courses, for it would seem that such facts may be learned with even less repetition.

Examples of type 7, Functional relationship, are:

- No. 6. Anticipation of policies in the modification of behavior.
- 22. Behaviorism and its educational implications.
- 50. Cooperation of individuals or groups through organized effort, will, and thought.
- 89. Fatigue in relation to learning.
- 122. Incentives as preventatives of disciplinary problems.
- 174. Motivation of conduct in relation to personality adjustment.
- 185. Need for testing and its relation to teaching.
- 261. Purpose and place of routine in classroom management.
- 280. Social control through a balance of various forces.

Judging from the nature of this type, one might expect it to be more fully represented. A topic of this kind lends itself readily to the discussion method of treatment. There is always

the possibility of wrong inferences, such as a wrong cause or a wrong result or the lack of a real functional relationship. It is in nature somewhat similar to the type, Cause and effect.

The list below affords examples of type 12, Principles and Objectives.

No. 86. Extracurricular activities—principles of organization and control.

193. Occupation as social service in addition to making a living.

250. Recitation: newer plans for its conduct.

251. Recitation aims and plans.

Only 12 examples of this type are available in this curriculum as judged from the reports. It may be that similar types include those additional topics which could be classified here.

The examples for Cause and effect are also few in number. Only 7 are listed and 4 of these have been used under the discussion for Curriculum A; the others are:

No. 71. Educational problems created by the modern age: machine, industry, and science.

177. Motivation of our conduct by dominant human urges.

306. Supervised study in relation to other types of class management.

Two topics are included under the type, Advantages and disadvantages:

No. 232. Project teaching—dangers and objections.

284. Socialized recitation plan and its defects.

9. *What is the extent of the topics reported as "no repetition" in Curriculum C?*

Table XX gives 124 topics for the 50th to the 74th percentile and 8 more for the 75th percentile on up, a total of 132 topics or 40 per cent of the 328 on the check list.

10. *What is the nature of the topics reported as "no repetition" in Curriculum C?*

According to Table XX, the types listed in a descending order of occurrence are: Major facts, Meanings, Definitions, Manner, Illustrations, Conditions, Functional relationship, Cause and effect (the last two having the same number, 6). Since examples for each of these types have been given and are now familiar to

the reader, except type 5, Conditions, it alone will be further illustrated here.

Examples of type 5, Conditions:

- No. 12. Arithmetic needs of pupils with varying ability.
 40. Communication and transportation as social agencies.
 49. Contrasts and conflicts between town and rural groups.
 104. Geographic features in socialization of rural community.
 117. Human nature in isolation and association.
 131. Influence of geographic features on character.
 152. Living standards in rural community.
 264. Rural community center—nature and organization.

TABLE XX

CLASSIFICATION AND RANK OF TOPICS REPORTED AS NO REPETITION FOR
 CURRICULUM C

Data from Table XV

Type of Topic	Number of Topics Rated by (3) 50%-74%	Number of Topics Rated by (4) 75%-100%
1. Advantages and disadvantages	4	0
2. Arguments	1	0
3. Cause and effect	6	0
4. Comparison	1	0
5. Conditions ..	8	0
7. Functional relationship	6	0
8. Illustration	12	2
9. Major facts	45	5
10. Manner	15	1
11. Meaning-definitions	20	0
12. Principles and objectives	3	0
13. Rules and laws	3	0
Total	124	8

With the exception of one topic (No. 12) these topics are all derived from the courses in sociology. This is quite natural, for such courses aim to present or describe the geographical, biological, psychological, cultural, and social forces which affect community life.

11. *What is the extent of the topics reported as unnecessary repetition in Curriculum C?*

The data in Table XXI show two columns of percentages, one for 10%-24% and the other for 25%-49%. This division was necessary as no higher percentages were reported for unnecessary

repetition and it was thought inadvisable to consider anything less than 10 per cent. The value ranges even as they stand are subject to serious question, but may reveal some problems worthy of further pursuit. Counting in the two topics of the upper group with the 123 of the lower group we have 125 topics, or 38.1 per cent of the total. Hence, it may be concluded that about three-eighths of the topics in this curriculum are considered to be unnecessarily repeated by a group of from one-tenth to one-fourth of the graduates who had these topics in their courses. The nearest average would be about one-fifth of the group. Again the question arises, "Is this a serious problem of duplication of topics or must we pay this much for any organization of courses in such closely related fields as are here represented"? We can probably answer safely that for these 20 to 25 per cent it does present a problem. This may not be true for the remainder of the group—the 75 to 80 per cent of students. As in the case of Curriculum A, it is quite possible that the courses do not meet the needs of the superior group in the most efficient manner, assuming again that this group reported the larger number of unnecessary duplications. Further evidence to confirm this assumption comes from Table XXII, which is arranged to show the distribution in honor points for the 207

TABLE XXI
CLASSIFICATION AND RANK OF TOPICS REPORTED AS UNNECESSARY REPETITION
FOR THE FOUR-YEAR CURRICULUM C
Data from Table XV

Type of Topic	Number of Topics Reported by (1) 10%-24%	Number of Topics Reported by (2) 25%-40%
1. Advantages and disadvantages	4	0
2. Arguments	1	0
3. Cause and effect	3	0
4. Comparison	1	0
5. Conditions	5	1
7. Functional relationship	8	0
8. Illustration	24	1
9. Major facts	29	0
10. Manner	25	0
11. Meanings-definitions	14	0
12. Principles, objectives	7	0
13. Rules and laws	2	0
Total	123	2

TABLE XXII

DISTRIBUTION OF HONOR POINTS FOR THE 207 FOUR-YEAR GRADUATES OF CURRICULUM C WHOSE CHECK LISTS WERE USED IN THE STUDY OF REPETITION OF TOPICS

	Honor Points	Frequency	Percentage of Total
A	4.5-5	11	5.31
A—	4.0-4.49	40	19.32
	3.5-3.99	50	24.15
B	3.0-3.49	72	34.78
	2.5-2.99	28	13.52
B—	2.0-2.49	3	1.44
	1.5-1.99	1	.48
C	1.0-1.49	0	0.00
	Records missing	2	.96
Total		207	99.96 +
Q ₃		3.84	
Median		3.48	
Q ₁		3.12	

graduates whose lists were used in the study of the duplication of topics.

Table XXII is organized in the same manner as Table VI, a portion of which gives a similar distribution for the 250 graduates and students. The 43 junior and senior students are left out of the table because their courses were not complete enough for valid judgments on repetition of topics, in comparison with those of the four-year graduates. The table shows that from A— to A inclusive we have 51 graduates or 24.6 per cent of the total. This means that one-fourth of the 207 rated above the third quartile in scholarship. The data show a strong indication to a selection of students who are able to do a superior type of work and a tendency to include students who do B or better. Almost 35 per cent are of the latter group. With the median at 3.48 and the upper quartile at 3.84 honor points, the evidence is strong that some adjustment in courses might be made to meet better the needs of this group of one-fourth to one-half—probably made up of the better type of students.

12. *What is the nature of the topics reported as unnecessary repetition for Curriculum C?*

According to Table XXI the types are: Major facts, with 29 topics or 8.8 per cent; then in descending order, Manner, with 25

topics or 7.6 per cent; Illustration, with 24 topics or 7.6 per cent; Meanings, with 14 topics or 4.2 per cent; Functional relationship, with 8 topics or 2.4 per cent; Principles and objectives, with 7 topics or 2.1 per cent. This order is identical with that reported for Curriculum A except that the types Illustration and Manner are reversed. As examples of these types have been given, it will not be necessary to repeat them at this time.

A comparison of the topics in Table XXI for unnecessary repetition with those in Table XIX for helpful repetition, shows that 62 topics of the former table are also included in the latter. They are distributed in the following manner: Advantages and disadvantages, Nos. 232 and 284; Cause and effect, 62; Conditions, 80, 322; Functional relationship, 22, 53, 89, 176, 185, 262; Illustrations, 1, 15, 61, 64, 107, 148, 160, 215, 231, 233, 238, 242, 259, 289, 290, 291; Major facts, 2, 47, 74, 106, 108, 112, 234, 245, 252, 278, 285, 300, 312; Manner, 56, 77, 101, 125, 144, 157, 166, 187, 243, 276, 283, 292; Meanings, 158, 159, 257; and Principles and objectives, 4, 58, 86, 110, 123, 142, 189. In other words this means that half or more of the graduates who had the topics considered these 62 topics helpfully repeated, while about one-fourth to one-fifth consider them unnecessarily repeated. This is not only a contrast in numbers but a more striking one in judgment.

In a partial effort to meet and solve the problem of duplication of topics, Dean Rogers of the School of Education of the University of Southern California has developed a rather unique and interesting plan. Each instructor files in a central office an outline of each course together with a description of each unit, with references, and so on. This material is thus made available at all times for the use of all college instructors. Before an instructor can introduce a new unit in any course, or before a course is changed, the new unit or changes must be reported and properly checked and approved by a special group. This tends to eliminate unnecessary repetitions and holds certain courses responsible for definite content. An exchange of material is also made possible through such a central clearing house arrangement. A more complete description is given by Corey [B 16] in a recent article.

This same problem is being studied and attacked at Teachers

College under the direction of Dr. Paul R. Mort. To quote from the mimeographed directions sent to the instructors:*

Education from the standpoint of the student is a unitary matter; but from the standpoint of materials out of which this is built, certain divisions must be recognized. One such division at present is a course, but often a single course will contain several major divisions. Every course will have running through it a certain unity which is important, yet at the same time it may have within itself recognizable divisions. . . . The various subcommittees of the Committee on Instruction need accurate detailed materials describing these units or topics or divisions in order to see whether our present organization of instruction is economical and effective. You are accordingly asked to analyze your courses according to the accompanying outline. In some cases the unit described may be only a few hours in length; in other cases, several weeks; and in certain cases, the entire semester.

The outline attached contained the following divisions:

1. Subject of unit _____
2. Course number _____
3. Number of instructional units reported for this course _____
4. Number of class hours normally used for this unit _____
5. Description of the unit in sufficient detail that the instructional committee will be able to obtain a clear idea of the content and objectives.
6. If, to your knowledge, somewhat similar units are offered by other teaching groups in Teachers College, what are the specialized applications or points of view which you give to your students which are probably not given to the students in other groups? _____

Analysis made by _____

A number of other colleges and universities have made studies of a similar nature with the objective of eliminating needless repetition but have no available reports of their progress.

DISCUSSION AND SUMMARY OF THE PURPOSE AND NATURE OF REPETITION

1. *Under what conditions is repetition helpful and justifiable?*

a) Repetition of topics may be in the nature of a real review. If it does no more than merely repeat the subject matter and technique of instruction, the student may consider it review and

* This material was derived from a four-page mimeographed outline under date of January 23, 1933.

so report it. Such review may be useful in the fixing of facts, principles, and the establishment of attitudes. As expressed by Douglass¹⁰:

A review of this sort should not contemplate a resurvey of all that has been covered in detail, but should select a few points on which the pupils are suspected of being weak, as well as those points which are considered of outstanding importance for permanent retention, or as a preparation for work to come.

This same point is stressed by Harap¹¹ when he urges a definite amount of repetition to assure permanence of learning:

When a course of study is complete we must pause to give attention (if we haven't already done so) to an important psychological principle—that a habit is not permanently fixed unless it has been given a sufficient amount of practice or repetition. It is, therefore, necessary to analyze our course of study, to select the elements which are fundamental, and to repeat them at appropriate intervals.

Although the above idea applies to the content of one course, it may be extended to include several courses with the same objective in mind. It is difficult in review to avoid some repetition, but if the purpose is clear in the mind of the student and the teacher, then useful and beneficial results should follow its employment in teaching.

b) Repetition may be an essential in the development of an appreciation or understanding of some topic, principle, or concept, or as preparation for other advanced work. This latter propaedeutic value is easily underemphasized and even neglected. Illustrations of this value are the study of simple correlation for its use in partial and multiple correlation and in the *préparation* of regression equations, and the study of the standard deviation and its later use in determining the significance of a difference, in building T scales, or working out standard scores. Repetition of the elementary concepts builds a better foundation for the advanced work.

c) When the majority of the graduates and students report favorably on the repetition of the topic, one presumes at least that such repetition of topics in courses should probably be continued. This favorable report does not explain why the repeti-

¹⁰ Douglass, H. R., *Modern Methods in High School Teaching*, p. 64. 1926.

¹¹ Harap, H., *The Technique of Curriculum Making*, pp. 211-214. 1928.

tion was helpful. The student has probably not analyzed the curricular content to this extent. The previous analysis of the nature of the 328 topics and their classification into the fourteen types shows that the types most frequently reported as being helpfully repeated were Illustration, Manner, Major facts, Functional relationship, and Principles and objectives.

d) Repetition is helpful when a topic is treated from various points of view so as to enrich the student's background. This may be illustrated by the spiral diagram in which each concentric and numbered circle brings a wider and richer perception. This may be similar to a review or may be different. An example would be the treatment of the topic, Individual differences, in the various psychology and education courses.

The same idea is developed by Osburn [B 42] in his discussion of the overlapping of material in the elementary school, the high school, and the college. He says:

It is quite possible to teach the same topic in the elementary school, the high school and the college without overlapping at all. In each type of school the subject would be taught from a different point of view. For example, the Stamp Act incident may be taught in the elementary school as one of the causes of the Revolutionary War. In the high school it may be presented in connection with a study of colonial government in its relation with the mother country and in the college it might be worth while to teach the Stamp Act again in connection with a study of the general theory of taxation. . . . Each of these types means something to educational method and compels the consideration of anyone who attempts to gather data of a worthwhile sort concerning overlapping.

It is quite possible that all students would not profit equally from such a spiral treatment of topics. The number of presentations may often be more than enough to guarantee learning on some ability levels and insufficient on others. The whole problem of repetition or duplication of topics is thus inextricably bound up with that of individual differences.

2. *Under what conditions is no repetition, i.e., a single treatment of the topic, helpful and justifiable?*

a) Repetition is perhaps not necessary when the topic is limited in application to one course or has a restricted use. Examples are certain historical, biographical, and drill materials.

b) Repetition is perhaps unnecessary when the topic is so elementary that a single treatment is sufficient. This applies to many such facts as the hygiene of the schoolroom; certain historical and biographical data; dates; events; school laws and their detailed provisions; facts of school administration and organization pertaining to county, district, or state; sociological data; elementary facts in testing courses; facts of rural community life; and others.

Tables XVII and XX report topics not repeated and show a preponderance of the above kinds. Major facts rank highest with Meanings, Manner, Illustration, and Cause and effect, in descending order. Instructors probably realize that these types of topics should be given little or no repetition. Much, however, depends on the special nature of the topic and the peculiar needs of each class.

c) A single treatment may be justifiable when the majority of the graduates and students do not favor repetition of a topic but consider a single treatment sufficient. The exact nature of this single treatment must in every case be determined by the topic itself. An illustration of this point of view is expressed in the following statement of one graduate:

Repetition of any topic in different courses is useless unless that repetition is actual practice or application. When material has once been covered, the student knows where to find it again if it is ever needed.

3. *Under what conditions is unnecessary repetition reported and what are the probable causes?*

a) Repetition is hardly necessary when the topic is not of sufficient difficulty of comprehension to justify it. Most topics are not of the same degree of difficulty for all students. Those students rating in the lower level of intelligence may consider the repetition helpful rather than unnecessary, while the reverse may be true of the students of higher level of intelligence. The intelligence of the student probably has a direct bearing upon the amount of repetition required.

b) When the student feels he is not gaining any new points of view or making any progress, he is ready to report unnecessary repetition. He feels that the treatment is offering nothing new and he is therefore anxious to push onward toward more chal-

lenging interests and more stimulating problems. The treatment has exhausted the immediate possibilities of further interest and motivation for more study. This may be due to the background of the student, such as his degree of general intelligence, his interests, his experiences, his range of reading in the field or related fields, and the previous courses he has taken.

c) When the duplication seems out of proportion to the relative value of the topic the student may consider it unnecessary. The term *value* includes both practical and theoretical considerations. The amount of duplication and reëmpphasis by the various instructors should be for the student a valid index of the worth of the topic to him as a prospective teacher. If duplications and value are decidedly out of balance, he necessarily reacts unfavorably and reports undue repetition. As an example of this attitude, one reply to the check list included the following critical comment:

I have considered practice teaching and psychology valuable. . . . The time spent on all other education courses was wasted. After taking one, the rest were a weak repetition. The fact that they were snap courses, however, allowed me to spend more time on valuable subject matter. The material of all these education courses (other than psychology and practice teaching) could be packed into one or two stiff courses.

Another comment inclined to the other extreme:

I found the courses in education to be very satisfactory.

Still another comment presents some justification for the ever-present repetition in view of the shortness of the term:

It seems to me that at Western we cram so much into our minds in such short periods that we cannot retain our knowledge unless there is repetition. . . .

d) Unfavorable reaction of the student to the personality of the teacher or to his methods of teaching may carry over and develop a distaste for the subject and may motivate reports of unnecessary repetition. This may be implied in the remarks of one superintendent who replied to the check list:

In trying to recall the value of each subject I invariably got a picture of the instructor. I believe the instructor is more valuable than the course of study. However, I realize that we must have a curriculum.

Another comment is definitely pointed toward this idea:

. . . Many things are impractical, partly, I think, because due to the unpleasant personality or lack of personality of the college instructor, he cannot make the student feel the necessity of the devices. Too, some instructors don't understand the work well enough to practice what they preach.

The next quotation illustrates a slightly different point of view—a reaction to the instructor's own past experience:

I think there should be more courses given in the teachers colleges in elementary school methods by instructors who have taught in these grades, since they only can fully understand the needs of the teachers going out into such positions. I consider much of my time was wasted because of this lack of understanding.

A general criticism is implied by the following remarks relative to teaching method used:

Most of the topics in the education courses were never given adequate treatment in class. Many were met in connection with outside reading only.

The personality of a teacher as it affects a student may call forth a strongly favorable reaction, secure a lukewarm or indifferent response, or produce a decidedly negative and unfavorable effect. The strongly favorable reaction may even condone deficiencies of method and develop a forbearance for or an excuse for unnecessary repetition. It might even influence more replies for helpful or no repetition. This is another instance of the difficulty in the control of the "halo" effect in securing data or estimates involving personal considerations.

Thus it seems that duplications should be based on at least four considerations: (1) ease of comprehension; (2) attitude of student toward the duplications; (3) relative value of the topic, either theoretical or practical; (4) reaction of the student toward the personality of the teacher. This amount of duplication should be tentatively and carefully planned by the instructors working coöperatively.

SUMMARY OF THE DATA AND A COMPARISON OF THE CURRICULA

Table XXIII was prepared to summarize the data given in Tables XIII, XIV, and XV and other items from the previous

discussions. Since the same total of topics (328 on the check list) applies equally to each curriculum and to all data, the separate columns are as comparable as though the numbers were reduced to a percentage basis.

Comparing reports only above the 50th percentile for helpful repetition of topics, the two-year A Curriculum ranks highest with 193, the four-year A next with 170, and the four-year C lowest with 150 topics. If we include all topics ranked from the 25th percentile on up, the order is, first, the two-year A Curriculum, with 313; the four-year C with 298; and last, the four-year A with 261 topics. It is probably unfair to compare the two-year curriculum with either of the four-year curricula since the former contains only about half as many education courses as do the four-year curricula. There is rather close agreement between the four-year Curricula A and C as to number of topics in each group (170 and 150; 261 and 298). The two-year A has 313 topics, or more than the average number (280) for the two four-year Curricula. This tends to indicate that the larger amount of helpful repetition probably occurs on the junior college level or the first two years of a four-year program. An examination of Table IX will show which topics by number are duplicated within the same or related subject fields both for the two-year and for the four-year programs. Reference to Tables XIII, XIV, and XV will give the nature of the duplications, if the reader desires such a detailed analysis.

Considering reports only above the 50th percentile for no repetition, the four-year A ranks highest with 137, the four-year C next with 132, and the two-year A last with 91 topics. If we include all topics ranked from the 25th percentile on, the order is changed somewhat. First is the four-year C with 267, next the four-year A with 228, and last the two-year A with 248 topics.

Considering reports only from the 10th percentile to the 50th percentile for unnecessary repetition (as few were reported with a higher percentile in any curriculum), the four-year C is highest with 125, the four-year A next with 118, and the two-year A last with 88 topics. It is impossible to carry out comparisons completely for the four quartile ranges as indicated in Table XXIII for the other classifications. Even these percentile ratings are low but do apparently represent the sincere opinion of a certain

TABLE XXIII

SUMMARY OF THE EXTENT AND NATURE OF THE REPETITION OF TOPICS FOR CURRICULA A, B, AND C WITHIN DEFINITE PERCENTILE RANGES

Data from Tables XIII, XIV, and XV

Percentile Range	Helpful Repetition			No Repetition			Unnecessary Repetition		
	Cur. A and B		Cur. C	Cur. A and B		Cur. C	Cur. A and B		Cur. C
	2- and 2½-Yr.	4-Yr.		2- and 2½-Yr.	4-Yr.		2- and 2½-Yr.	4-Yr.	
100									
75	47	56	17	3	41	8	0	0	0
50	146	114	133	88	96	124	0	1	0
25	120	91	148	157	91	135	1	7	2
10	13	54	29	74	80	53	87	111	123
0	2	13	1	6	20	8	240	209	203
Total	328	328	328	328	328	328	328	328	328

group of individuals who felt that there was a definite amount of unnecessary repetition in their courses.

UNDEREMPHASIS OR OMISSION OF TOPICS

1. *What topics, instead of being repeated, are now neglected or underemphasized?*

In answering the check list, some of the graduates and students marked certain topics as being neglected and as needing more intensive or exhaustive treatment. The list of 43 topics, arranged by subjects or courses in which they are most likely to occur, was collected by an examination of the 430 check lists. The topics represent a variety of interests with the main stress on three closely related courses; Classroom Management, Ele-

mentary Educational Psychology, and Principles of Teaching. A secondary stress was placed on topics from Sociology, and Tests, Measurements, and Statistics. Four other courses had only two topics included. The topics were distributed as given below:

1. Principles of Teaching:

- No. 4. Aims of education—elementary or secondary.
- 15. Assigning the lesson.
- 167. Mental attitude as a factor in motivation.
- 192. Observation of class teaching—preparation for, and discussion.
- 225. Professional improvement of teacher and growth in service.
- 226. Professional magazines, or other reading for improvement.
- 243. Questioning: types to use and improvement.
- 245. Rating scales, charts, etc., in evaluation of teaching.

2. Elementary Educational Psychology:

- No. 2. Adolescent and preadolescent characteristics.
- 22. Behaviorism and its educational implications.
- 72. Efficiency in work: causes, conditions, and factors influencing it.
- 73. Emotional adjustments.
- 167. Mental attitudes as a factor in motivation.
- 174. Motivation of conduct in relation to personality adjustment.
- 177. Motivation of our conduct by dominant human urges.
- 208. Personal traits: their alteration or improvement.
- 218. Preparing and using a time-study schedule.

3. Classroom Management:

- No. 33. Child nature in classroom management.
- 41. Comparative study of American and European secondary education.
- 65. Disciplinary control by personal influence or traits.
- 79. Ethical character training.
- 80. Ethics of the teaching profession.
- 86. Extracurricular activities—principles of organization and control.
- 92. Filing system of cards and folders for teaching materials.
- 225. Professional improvement of teacher and growth in service.
- 302. Study hall duty.

4. Tests, Measurements, and Statistics:

- No. 107. Graphs: their construction and use in teaching.
- 219. Preparing practice or drill material for pupils.

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- 220. Preparation of a report on use of tests or related topics.
- 245. Rating scales, charts, etc., in evaluation of teaching.
- 289. Standard tests in your subject.
- 5. Student Teaching:
 - No. 92. Filing system of cards and folders for teaching materials.
 - 143. Learning to know pupils through study of records or their social background.
 - 161. Mastering the subject matter for student teaching.
- 6. Sociology:
 - No. 30. Character, conduct, and citizenship training.
 - 56. Culture as transmitted by imitation or instruction.
 - 117. Human nature in isolation and association.
 - 165. Meeting recreational needs through suppression, substitution, or sublimation.
 - 193. Occupation as social service in addition to making a living.
 - 256. Religious intolerance, sectarian strife, and preventatives.
 - 320. Thrift for teacher and pupil.
- 7. Public School Administration:
 - No. 111. Health service administration and organization.
 - 297. State certification of teachers.
- 8. Supervision: none.
- 9. History and Principles of Education:
 - No. 71. Educational problems created by the modern age, machine, industry, and science.
 - 216. Preparing and writing your philosophy of education.
- 10. Psychology of Elementary Education: none.
- 11. The Educational Program—The Curriculum:
 - No. 52. Course construction for elementary or high school subjects.
 - 217. Preparing specific objectives for teaching your subject.

In commenting on the above topics, one graduate made the following statement:

The numbers I have checked (2, 22, 30, 33, 56, 72, 73, 79, 86, 117, 165, 167, 174, 177, 208) may be classified as intangible and theoretical but to me they seem important. I feel that I could have avoided many of the mistakes I have made and could have done much more effective teaching if these topics had been stressed more.

The list of 43 topics marked for further consideration contains

33 which ranked in either the 3 or the 4 percentile range under helpful repetition for both four-year curricula. Five other topics, 41, 117, 216, 256, and 297 are above the 50th percentile range in the list reported as not repeated. A comparison of this list with one prepared by Peik [B 44] on the type of material which is most often checked by alumni as inadequately treated in the high school curriculum of the teachers college, shows eight topics in common; namely, classroom management, courses of study, discipline and control, elements of success and failure in high school teaching, observation of teaching, practice teaching, questioning, and teacher rating. Apparently these topics will bear considerable repetition and reëmphasis in the different courses.

2. *What additional topics were suggested by graduates for treatment in courses?*

In answer to question 9 on the last page of the check list, additional topics were listed as being valuable and necessary to teaching. Some of these topics are very similar, or closely related, to those included on the list. The list is presented as originally worded to illustrate the thinking of those who replied and to give some expression of further needs of the teachers in service.

1. Problems of dealing with parents.
2. The problem child.
3. The over-age pupil.
4. Securing a position.
5. Teacher's place in community outside classroom.
6. Enlarge upon social need: How to adapt oneself in environment in living or getting along with people.
7. Psychology of the personality.
8. I believe a short (probably postgraduate) course for students who have taught, in which questions and problems arising in their work may be discussed and solved, would be of great value.
9. Language study as an aid to other studies and as an aid for accuracy in thinking.
10. Use of leisure time.
11. Use of library.
12. Reading appreciation.
13. Coöperation among departments in a school system.
14. Proper evaluation of subjects and activities and their interrelationships.

15. A few economic topics that would be applicable to these times.
16. An interesting course . . . might contain a study of racial and national differences in peoples, and methods of meeting these characteristics in the classroom, and comparisons of our schools with those in other countries.
17. A first aid course should be required of all students.
18. Social adaptation to city life.
19. An orientation course.
20. Placement of teachers according to their ability and rating by competent authorities.
21. Systematized book report list for high school book reports with proper titles of books suitable for each year.
22. Special helps for slow children or more emphasis on their adjustment to the group.
23. Critical study of political and social institutions—a study of all institutions and education—not confined to school.
24. Correlation of the social studies.
25. Training teachers to spend wisely.
26. Training teachers to behave after school.
27. Training teachers to cooperate with fellow teachers.
28. The psychology of salesmanship as applied to getting a position.
29. State courses of study in specific fields.
30. Health principles and practices.
31. Contemporary comparative education.
32. A keen sense of professional ethics.
33. Use of analysis.
34. Actual training in music or other arts.
35. Philosophy as a guide for teachers.
36. Karl Marx and his influence.
37. Voltaire's life and influence.
38. Opportunity to visit classes.
39. Methods of keeping up a certificate.
40. How to live with other people in the community.
41. Classroom discipline while teaching.
42. Pupils' responsibility in care of classroom, materials, etc.
43. Organizing of a report, the writing of a term paper or a thesis.
44. Adjustment of the superintendent in rural community to the school.
45. Political background of school administration and boards of education.
46. Diplomacy and tact of teachers.
47. Educational guidance.
48. Effects of vocational maladjustment on education.
49. Freedom of educational machinery from political influences.

50. Psychology of penmanship.
51. How far should a person go to obtain or hold a position?
52. Has sufficient training been given in what to expect of the public and of school boards?

SUMMARY OF CHAPTER IV

1. The duplication chart for the four-year A Curriculum shows 170 duplications; for the four-year C Curriculum it shows 188 duplications. The range in number of duplicated topics per course varies from 3 to 40. The data are only for the extent of duplication and have no reference to its nature.

2. The analysis of education courses to determine the extent of duplication within the same or related subject fields reveals most for groups 1, 2, 3, 4, and 6. Group 1 consists of elementary educational psychology, advanced educational psychology, and the psychology of elementary or secondary education. From 21 to 31 duplicated topics occur when the different groups of courses are compared. The duplications within the six groups listed vary from 2 to 8 topics. A total of 53 topics are duplicated in both curricula.

3. An analysis of the required special methods fields indicated a range of 4 to 7 professional variant topics (defined by Randolph). The evidence tends to indicate that such courses are an attempt to compromise between a straight subject matter course and the professionalization of the course.

4. There is considerable duplication of topics among the special methods courses, the amount varying from 12 to 39 topics. Evidence indicates that their relationship to each other and to the education courses is not as well defined and as clearly outlined as it could be.

5. A large amount of duplication is observed when the special methods courses are compared with the education courses. The range is from 15 to 66 topics. Evidence points to a need for an intensive study of the entire field to determine the proper relationships between special methods courses, their relationship to the education courses, and a plan to assure desirable duplication and the elimination of the unnecessary and undesirable repetition.

6. The extent of helpful repetition in Curriculum A reported by 50 to 74 per cent of those who had the topics shows 104 topics

(31.7 per cent of the total) common to the two-year, the two-and-a-half-year, and the four-year curricula. Likewise, reported by 75 to 100 per cent were 47 additional topics. For both groups reporting we have 151 topics, or 46.0 per cent of the entire list. For the 30 four-year A Curriculum graduates, a total of 170 topics were reported, or 51.8 per cent. This means that about one-half of the four-year A Curriculum is considered helpfully repeated.

7. After grouping the topics of the check list into fourteen types according to Osburn's [B 41] classification, those topics ranking highest for helpful repetition in Curriculum A were of the following types: *a*) Illustrations, *b*) Manner or how, *c*) Principles and objectives, *d*) Major facts, *e*) Functional relationships, and *f*) Cause and effect. These are listed in a descending order of occurrence.

8. The extent of topics common to the two-year, two-and-a-half-year, and four-year A Curricula reported as "no repetition" by more than 50 per cent of graduates includes 78 topics, or 23.7 per cent. If the 59 topics occurring only in the four-year curriculum are included, the total reaches 137, or 42.0 per cent of the entire curriculum. Hence almost half of these courses are reported as not repeated. This may or may not indicate the most effective organization from the student point of view.

9. The nature of the topics reported above the 50th percentile as "no repetition" for the A Curriculum includes: *a*) Major facts, *b*) Meanings or definitions, *c*) Manner, *d*) Illustrations, and *e*) Conditions.

10. With but a single exception there were no topics reported as unnecessary repetition by more than 50 per cent of the graduates. The range most common for both curricula, A and C, was between 10 and 24 per cent of the graduates.

11. The extent of unnecessary repetition for Curriculum A, when the two-year and the two-and-a-half-year curricula are considered, as reported by from 10 to 24 per cent of graduates, includes 87 topics or 26.5 per cent of the total. For the four-year curriculum the reports from 10 to 49 per cent include 118 topics, or 36 per cent of the total. Apparently there is no serious problem of unnecessary duplication in the first two or two and a half years of the four-year curricula and the situation for the four-year program is not so serious as the duplication charts alone would appear to indicate. Adjustments are

needed for certain topics, especially for those reported by 25 to 50 per cent of the graduates.

12. The nature of the topics reported as unnecessary repetition in Curriculum A includes first, *a*) Major facts, *b*) Illustrations, *c*) Manner, *d*) Meanings, and *e*) Functional relationship.

13. The extent of the helpful repetition for the four-year C Curriculum reported by 50-100 per cent of the graduates includes 150 topics, or 45.7 per cent of the total. This is approximately half of the entire curriculum. If we add the 148 reported by 25 to 49 per cent, we have 298, or 90.8 per cent of all topics.

14. An analysis of courses shows 78 duplicated topics. Graduates reported 82 additional topics helpfully repeated in Curriculum C. They represent parts of eight different education courses.

15. The nature of the helpful repetition in Curriculum C includes the following types: *a*) Manner, *b*) Illustration, *c*) Major facts, *d*) Functional relationships, and *e*) Principles and objectives.

16. The topics reported as "no repetition" for Curriculum C number 132, or 40 per cent of the total. These were reported by 50 per cent or more of the 207 graduates.

17. The nature of the topics reported as "no repetition" by 50 per cent or more of the 207 graduates is as follows: *a*) Major facts, *b*) Meanings, *c*) Definitions, *d*) Manner, *e*) Illustrations, *f*) Conditions, *g*) Functional relationship, and *h*) Cause and effect.

18. The extent of topics reported as unnecessary repetition shows 123 topics from 10 to 24 per cent and only 2 from 25 to 49 per cent of graduates, with nothing higher. The 125 topics are 38.1 per cent of the total. Apparently a small group of students, perhaps one-fifth to one-fourth, find about three-eighths of the topics unnecessarily repeated. The same situation is present in the four-year A Curriculum.

19. The nature of the 125 topics reported as unnecessary repetition includes: *a*) Major facts, *b*) Manner, *c*) Illustration, *d*) Meanings, *e*) Functional relationship, and *f*) Principles and objectives.

20. Comparison of data on repetition for Curriculum C shows that of the 123 topics reported by 10 to 24 per cent of the graduates as unnecessarily repeated, 62 are also reported as helpfully

repeated by 50 per cent or more of the graduates. This is further evidence of a need for adjustment of content in the education courses.

21. A total of 43 topics were mentioned by graduates and students as important enough to receive more attention and emphasis, and possibly some repetition. The implication was that these topics were neglected or inadequately treated. The topics are representative of most of the courses and may be distributed as follows: Principles of Teaching, 8; Educational Psychology, 9; Classroom Management, 9; Tests, Measurements, and Statistics, 5; Student Teaching, 3; Sociology, 7; Public School Administration, 2; History and Principles of Education, 2; The Educational Program, 2. Four of the topics occur in two courses.

22. Eight of the 43 topics reported in 21 above were also reported by Peik [B 44] in a list of 21 topics considered inadequately treated by high school teachers.

23. Fifty-two additional topics were suggested by the graduates for treatment in courses. Of this list, 18 were already included in the master check list but in some instances differently worded. The list represents some expression of the additional needs of the teachers in service with most of the topics dealing with social, political, economic, and professional problems.

24. Repetition of topics in courses appears helpful and justifiable under a number of conditions; namely, for review treatment, as a prerequisite in the understanding or appreciation of other topics, as preparation for advanced work, as a method of broadening and enriching the background through a spiral treatment of the topic, and at times for stimulation and motivation of the student in further pursuit of the subject or field under consideration.

25. A single treatment of a topic (no repetition) seems justifiable when it is limited in application perhaps to one course or branch of learning, when it is so simple and elementary in nature as to be easily assimilated in one thorough treatment, and when the majority of graduates consider one treatment sufficient.

26. Unnecessary repetition of topics probably occurs under one or more of the following conditions: when the relative value of the topic does not justify the additional time; when the student feels that he is not gaining any new points of view or making any

further progress; when the treatment tends to develop an unfavorable reaction on the part of the student to the personality of the teacher or to his methods of instruction, or when the halo effect reacts negatively in a student report of duplication; and when the ease of comprehension causes the more intelligent student to consider any repetition unnecessary.

CHAPTER V

THE VALUE OF THE TOPICS FOR PROFESSIONAL DUTIES, PROFESSIONAL BACKGROUND, AND LEISURE-TIME INTERESTS

THE EXTENT AND NATURE OF THE APPLICABILITY OF TOPICS

THIS section is a study of the data from Column II of the check list and suggests the varied implications. A number of definite questions are presented and discussed, and in some instances, explanations and answers are deduced. The same general plan of presentation and classification used in the previous chapter will be continued in this one.

1. *Are there any significant differences in data on applicability of topics for Curricula A and C when compared with each other?*

In order to answer this question, each topic was compared in rankings as given for Curricula A and C. Comparisons were made on the basis of the rankings given by the students as explained in the description of Table XIII, page 60. The three rankings, *h* for high, *m* for medium, and *l* for low applicability of the topic, are illustrated below with two different topics.

Topic	Total	CURRICULUM A						CURRICULUM C						
		h		m		l		h		m		l		
		f	r	f	r	f	r	f	r	f	r	f	r	
10. Association and satisfaction in arithmetic teaching	141	100	3	37	1	4	1	126	57	2	48	2	21	1
15. Assigning the lesson	173	151	4	18	1	4	1	243	216	4	24	1	3	1

The data show that topic 10 ranks high by a 3 and 2 rating, which means that 50 to 74 per cent and 25 to 49 per cent respectively of the graduates who reported studying the topic or using it gave it a high rating. The other ranks do not seem so important in comparison, as they involve such a small number of cases, fewer students in each curriculum having ranked them as *m* or *l*. For topic 15, the ranks are identical, but owing to the small num-

ber for the *m* and *l* they can be neglected in favor of the *h* ranks. Comparisons were thus made with these considerations in mind for each of the 328 topics for Curricula A and C. This comparative study revealed that 161, or 49 per cent of all topics, were given identical ratings under *h*, *m*, and *l*; 129 topics, or 39 per cent, were given two identical ratings out of three; 32, or 9 per cent, were given one identical rating out of three; 6, or 2 per cent, were given different ratings under all three headings. If we combine the first two groups of 161 and 129, we have 290 topics, or 88+ per cent of the total, having identical and markedly similar ratings, i.e., identical ratings under either three or two headings. This indicates that it is more economical to combine the data for the two curricula (as has been done in Table XXIV, a portion of which appears on the following page) and list separately the comparatively few topics which show marked variation. (See question 6 of this section.)

2. *What is the extent of topics having similar ratings for applicability in Curricula A and C?*

Table XXIV shows the total number of graduates who rated each topic and the number who gave each of the three ratings—*h*, *m*, and *l*. Counting only those topics reported by one-third (142) or more of the 430 graduates whose check lists were used in the study, we find that 58 topics in all were rated high by 75 to 100 per cent of replies. This rating is indicated by the 4 under the *r* column. A total of 115 other topics—indicated by a 3 on the table—were rated high by 50 to 74 per cent. Ninety-one other topics were given a high rating by 25 to 49 per cent—the rating of these topics is shown by a 2 on the table. No topics were given a medium rating by more than 49 per cent. Two hundred twenty-three topics were given a medium rating by 25 to 49 per cent. Eighteen topics were given the low rating by 50 to 74 per cent. Adding all topics rated high in 50 to 100 per cent of the replies, we have a total of 173 topics, or 52+ per cent of all topics, considered directly applicable or useful. These topics probably constitute the fundamentals and should be given further attention to determine their nature and the reasons for these judgments.

The 18 topics given a low rating by 50 per cent or more of the graduates rating them should also be examined. The fact that

TABLE XXIV

THE APPLICABILITY OF TOPICS AS REPORTED IN CURRICULA A AND C COMBINED

Sample of Complete Table

Topic	Total <i>f</i>	High		Medium		Low	
		<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>
5. Alexandrian period in education	187	9	1	64	2	114	3
13. Art teaching and its psychology	264	136	3	82	2	46	1
25. Board of Education members, qualifications, duties, etc. ...	240	79	2	87	2	74	2
42. Comprehension in reading and its improvement	343	301	4	33	1	9	1
64. Disciplinary control—punishments	400	276	3	93	1	31	1
81. Evolution of the educative process	333	58	1	130	2	145	2
92. Filing system of cards and folders for teaching materials	247	190	4	49	1	8	1
107. Graphs: their construction and use in teaching	382	215	3	112	2	55	1
108. Growth periods of the child .	411	282	3	111	2	18	1
135. Kindergarten and nursery methods and schools	137	64	2	38	2	35	2
149. Lesson planning for the large comprehensive units of a course	382	315	4	61	1	6	1
168. Mental hygiene for the teacher	350	285	4	60	1	5	1
180. Nature of institutional competition	167	30	1	59	2	78	2
198. Outside organizations for local rural community	166	64	2	59	2	43	2
203. Percentile scores: uses in scoring tests	300	113	2	114	2	73	2
238. Punishments—effective and ineffective types	377	261	3	93	2	23	1
253. Reliability of test scores	349	149	2	147	2	53	1
278. Sensations and feelings	363	194	3	131	2	38	1
288. Spelling: its aims, errors, psychology	258	174	3	59	1	25	1
301. Student teaching hall duty and help in management ...	269	202	4	47	1	20	1
321. Town, township, county and district school organizations .	212	91	2	58	2	63	2

they were thus rated raises the question of their applicability. Perhaps some of the topics cannot be made applicable. In other cases the difficulty may be in their organization, sequence in courses, or in their presentation,

3. *What is the nature of topics rating high in applicability?*

Table XXV was prepared to serve several purposes: first, to present data to answer the above question; second, to answer a similar question in connection with professional background; and third, to bring out several comparisons.

At present we are concerned with columns 1, 2, 3, 4, and 5 of this table. Columns 2, 3, 4, and 5 include the 173 topics ranking high in value. Evidently five types include most of the useful

TABLE XXV

CLASSIFICATION OF TOPICS ACCORDING TO RATINGS FOR HIGH VALUE IN APPLICABILITY AND PROFESSIONAL BACKGROUND

Data from Table XXIV

Type of Topic	Number of Topics Similarly Rated for Applicability and Professional Background		Number of Topics Differently Rated for			
			Applicability		Professional Background	
	(3) 50% 74%	(4) 75% 100%	(3) 50% 74%	(4) 75% 100%	(3) 50% 74%	(4) 75% 100%
1. Advantages and disadvantages	3	0	0	0	3	0
3. Cause and effect .	6	1	0	2	5	0
4. Comparison	0	0	0	0	1	0
5. Conditions	1	1	0	1	6	0
7. Functional relationship	10	2	0	5	12	0
8. Illustration	26	5	1	8	15	0
9. Major facts	23	2	3	5	30	3
10. Manner	27	11	2	6	19	0
11. Meaning	4	1	0	0	15	0
12. Principles and objectives	5	3	0	5	7	0
13. Rules and laws ...	2	0	2	0	1	0
14. Trends*	0	0	0	0	1	0
Total	107	26	8	32	115	3

ones, namely: *a*) Manner, 46 topics; *b*) Illustrations, 40; *c*) Major facts, 33; *d*) Functional relationship, 17; *e*) Principles, 13 topics. Since many examples of these types of topics have already been given in Chapter IV, further illustration is unnecessary. In Table XXV topics are classified by the total number only.

It may be rather significant that the types, Advantages, Conditions, Meanings, Rules and laws, register few topics. These are mostly abstract types and have been discussed and illustrated in Chapter IV,

4. *What is the nature of topics rated medium value in applicability?*

Since a judgment of medium value is midway between the high and low evaluations in a three-point rating scale, any such judgment may incline toward the upper or the lower point. These topics are therefore somewhat on the defensive. No topics in this group were rated medium by 50 per cent or more of the replies. Two hundred twenty-three topics were rated medium by 25 to 49 per cent of the 142 or more who reported on the topic. They include a wide range of subjects and come from all courses of instruction. The topics listed in the next discussion concerning topics rated low are typical of the 223 rated medium.

5. *What is the nature of topics rating low in applicability?*

No topics were rated low by 75 per cent or more of the replies. Eighteen were rated low by 50 to 74 per cent and 82 by 25 to 49 per cent. The list of topics so rated by 50 to 74 per cent follows:

- No. 5. Alexandrian period in education.
 17. Athenian conservatives and their attitude.
 18. Athenian folkways and their breakdown.
 19. Athenian world: education in their folkways.
 44. Conflict between industrial workers and their employees.
 113. Historical sources of an educational psychology.
 115. History of the testing movement.
 116. History of the public school system.
 118. Humanism in post-renaissance period.
 156. Malthus law of population.
 171. Medievalism in the history of education.
 179. National control of immigration.
 181. Nature and limitations of revolution for changing the social order.
 184. Need for consolidation of rural schools.
 195. Oriental world and education in their folkways.
 260. Roman contributions to the larger folkway.
 281. Social decadence through deterioration of land and racial stock.
 287. Sophists: their beliefs and proposals.

This list of topics includes 10 from the History and Philosophy of Education, 1 from Educational Psychology, 6 from Sociology, and 1 from Tests and Measurements. The data raise the question of the practical value of some historical, sociological, and

psychological materials as at present organized. These topics may have certain propaedeutic value and furnish a sound professional background and attitude as well as general information. This suggests the necessity of showing teachers in training that a full curriculum will contain much that cannot be directly applied in the classroom but which may be useful for other purposes, many of which are not apparent unless one has had some real experience as a teacher and as an adult member of a community.

6. *What is the extent and nature of topics given different rankings in applicability for Curricula A and C?*

Fourteen of thirty-two topics with two different rankings out of three (under *h*, *m*, and *l*) in each of the two curricula, A and C, follow:

- No. 10. Association and satisfaction in arithmetic teaching.
- 13. Art teaching and its psychology.
- 16. Associative learning.
- 37. Class group attention and its improvement.
- 49. Contrasts and conflicts between town and rural groups.
- 68. Economical methods of learning.
- 88. Eye-movements in reading analyzed.
- 110. Habit as a goal in learning.
- 163. Mathematics teaching and psychological problems.
- 248. Reading rate and factors which influence it.
- 249. Reading objectives.
- 261. Purpose and place of routine in classroom management.
- 306. Supervised study in relation to other types of class management.
- 321. Town, township, county, and district school organization.

The following three topics were given higher rankings in Curriculum C:

- No. 61. Development lesson—inductive and deductive technique.
- 222. Principal of the high school—duties and relationships.
- 270. School as a social factor in a rural community.

The following six topics were given all different rankings in each of the two curricula:

- No. 38. Clubs for rural pupils.
- 96. Foreign languages—Psychology of teaching.
- 135. Kindergarten and nursery school methods and schools.

- 184. Need for consolidation of rural schools.
- 199. Orientation activities during Freshman week.
- 277. Seasons as a social factor in rural community.

It is not clear why some of these twenty-three topics show differences between Curricula A and C. Many of them are applicable on all levels of teaching. The reason for the different ratings in the last group of six topics is evident. For example, topic 96 would probably be ranked high by those teaching a foreign language and low by others. Likewise, topic 135, Kindergarten and nursery school methods, would be considered highly applicable by kindergarten and primary teachers and ranked low by upper grade and high school teachers.

7. *Why are there many more similarities than differences in ratings on applicability of topics in Curricula A and C?*

Several probable reasons may be advanced for the great amount of similarity in the data for Curricula A and C. First, graduates and students coöperating in the study naturally based their judgments on teaching needs. Since positions secured are not always in exact harmony with the curriculum followed in preparation for teaching, the difference in data of the various curricula has less meaning and becomes somewhat artificial. For example, a student may finish the four-year high school curriculum but accept a rural or a grade position. Or a student may specialize in upper grade work and accept rural school or lower grade work. Or a student may take an all-grade curriculum and then teach in lower or upper grades. Since Illinois and most other states require four years of college preparation for teaching in high schools, and since the supply exceeds the regular demand in the secondary field, some graduates trained for secondary teaching go into the elementary field. This shift may have beneficial as well as deleterious effects, but that is another problem.

In the second place, the nature of the courses represented in this study is such that identical and similar basic topics occur in all curricula. Some of the courses are identical, and others very similar, in the different curricula. (See Chapter II.) For example, Elementary Psychology is identical in all three curricula. Principles of Teaching has more identical and similar topics than different topics in the various curricula. Furthermore, some

topics are useful in any curriculum. For instance, topic 267, Rural school pupils—their nature and characteristics, is valuable for teachers other than those working in a typical rural community. Child nature is basically the same. Moreover, because of mobility of population, in any community group of children one may find a wide range of interests and traits and a mixture of social origins and backgrounds. This is an argument for the inclusion of this and like topics in all the curricula in order to give the student a wider horizon in the educational field. The same may be said of topic 2, Adolescent and preadolescent characteristics; topic 15, Assigning the lesson; topic 123, Nature of individual differences; and many others. This points to the conclusion that there are far more similar than significantly different elements in curricula for the preparation of teachers. Granting this point, serious differentiations should be based on a broad and rich background of at least two years of college study plus some teaching experience.

A third factor is the transfer of a student from one curriculum to another. To illustrate, a student takes one or two years of an elementary curriculum, teaches a year or more, and upon return for further training transfers to the high school curriculum for the remaining two or three years. Such a student takes some courses or parts of courses in duplicate. He loses some credit through the transfer, but he makes contacts with all levels of the public school—a thing much to be desired regardless of the later type of specialization. In his estimate of the applicability of topics, he may lose sight of certain fine distinctions, consider the topics in the light of his total experience, and as a result, recognize their wider usefulness.

There are probably at work other minor influences that tend to obscure the formerly assumed distinctions of curricular classification, no one of which can be eliminated or controlled in this study. Among these may be mentioned the nature of the subjects taught by those replying to the check list, the type and size of the school and community in which they are working, their personal interests and traits, and the policies of their school boards and administrators.

The question of applicability of some topics on several levels of teaching involves the issue of re-organization of curricula for kindergarten-primary, elementary grades, and high school.

THE DEVELOPMENT OF PROFESSIONAL BACKGROUND
INCLUDING GENERAL INFORMATION

1. *Are there any important differences between Curricula A and C regarding topics useful in the development of professional background?*

This section deals with data from Column III of the check list. A number of tests were made similar to those described in answer to question 1 of the previous section. The large number of topics with similar ratings made it possible to group the data in one table. One would naturally expect more similarities than fundamental differences because of the more general nature of this category. There is little opportunity for curricular specificity. Table XXVI, a portion of which is given on the opposite page, is a composite of all curricula concerned. The small group of topics showing quite different ratings is listed under question 4, this section.

2. *What is the extent of topics rated high, medium, and low in value for professional background and attitude including general information?*

We must refer to Table XXV for data to answer this question and use columns 2, 3, 6, and 7. Adhering to the general plan, all topics checked by fewer than 142 graduates (one-third of the 430 replies used) were not considered. Twenty-nine topics (columns 3 and 7) are ranked high in 75 to 100 per cent of the replies; 222 are ranked high in 50 to 74 per cent (columns 2 and 6). This gives a total of 251 topics, or 76.5 per cent of the entire list. There are no topics ranked medium or low in background by more than 50 per cent of the replies. The low rankings of all 430 check lists, with the exception of topics No. 96 and No. 246, were made by only 1 to 25 per cent. The conclusion follows that even those topics not included in the 251 ranked high have some professional background value.

3. *What is the nature of topics rated high, medium, and low in value for professional background?*

An examination of columns 2, 3, 6, and 7 of Table XXV shows that type 9, Major facts, has the most topics—58; type 10, Manner, has 57; type 8, Illustration, has 46; type 7, Functional relationships, has 24; type 11, Meaning, has 20; type 12, Principles

TABLE XXVI

THE BACKGROUND VALUE OF TOPICS AS REPORTED IN CURRICULA A AND C
COMBINED*Sample of Complete Table*

Topic	Total <i>f</i>	<i>h</i>		<i>m</i>		<i>l</i>	
		<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>	<i>f</i>	<i>r</i>
7. Appreciation lesson—nature and plan	394	259	3	106	2	29	1
16. Associative learning	403	264	3	121	2	18	1
18. Athenian folkways and their breakdown	215	82	2	91	2	42	1
28. Causes of urban growth	299	118	2	137	2	44	1
37. Class group attention and its improvement	360	239	3	99	2	22	1
42. Comprehension in reading and its improvement	354	271	4	67	1	16	1
65. Disciplinary control by personal influence or traits	391	287	3	81	1	23	1
80. Ethics of the teaching profession	370	312	4	53	1	5	1
89. Fatigue in relation to learning	394	263	3	101	2	30	1
117. Human nature in isolation and association	250	151	3	80	2	19	1
134. Junior high school plan—advantages and weaknesses	264	156	3	90	2	18	1
169. Methods of social adaptation used by differing peoples	227	134	3	84	2	9	1
175. Motion pictures as a social factor in rural community	191	89	2	74	2	28	1
188. Normal curve—its interpretation and use	391	216	3	139	2	36	1
215. Practice in taking standard tests	366	208	3	126	2	32	1
228. Program for elementary school and how prepared	260	189	3	54	1	17	1
241. Pupil rating scales: their use and limitations	294	152	3	112	2	30	1
253. Reliability of test scores	355	190	3	125	2	40	1
299. Student teaching: learning to use library aids and professional magazines	350	264	4	67	1	9	1
309. Teaching pupils to study effectively	382	295	4	75	1	12	1

and objectives, has 15 topics. The first four types were also highest under applicability, but appeared in a little different sequence. This may be only a coincidence, but graduates probably considered that a topic having direct application could also, at times, furnish professional background. These topical num-

bers grouped according to types in columns 2 and 3 include 133 topics given high ratings by more than 50 per cent of the replies both for value in direct application and for professional background and attitude. Thirty-five topics were given a different rating for these two values by 75 to 100 per cent.

4. *What are the topics given significantly different ratings in value for applicability and professional background?*

A list of these topics follows:

- No. 15. Assigning the lesson.
- 37. Class group attention and its improvement.
- 43. Conferences with critic teachers.
- 48. Constructive or preventative aspects of discipline.
- 62. Discipline problems—causes.
- 63. Disciplinary control by preventative methods.
- 65. Disciplinary control by personal influence or traits.
- 92. Filing system of cards and folders for teaching materials.
- 110. Habit as a goal in learning.
- 112. Hygiene of heating, lighting, and ventilation.
- 121. Incentives useful in class management.
- 122. Incentives as preventatives of disciplinary problems.
- 142. Laws of learning—readiness, exercise, effect.
- 148. Lesson types—review, drill, inductive, etc.
- 149. Lesson planning for the large comprehensive units of a course.
- 150. Lesson planning for the daily unit or smaller part of a large unit.
- 157. Management of first-day routine in teaching.
- 161. Mastering the subject-matter for student teaching.
- 176. Motivation through use of proper incentives.
- 219. Preparing practice or drill material for pupils.
- *227. Professional organizations for teachers.
- *234. Psychology of the learning process.
- 242. Questioning as a part of the teaching process.
- 248. Reading rate and factors which influence it.
- 249. Reading objectives.
- 250. Recitation: newer plans for its conduct.
- 251. Recitation aims and plans.
- 262. Routine in its relation to disciplinary control.
- 301. Student teaching hall duty and help in management.
- 305. Supervising or directing pupils' study or other instructional activities.

- 307. Supervised study in relation to the assignment.
- 308. Supervised study methods and difficulties.
- *311. Teaching as a profession.
- 320. Thrift for teacher and pupil.
- 325. Visual aids in instruction.

The list includes 35 topics taken from the following courses: 17 from Principles of Teaching; 12 from Classroom Management; 4 from Educational Psychology; 1 from Student Teaching; and 1, Thrift for teacher and pupil, which could be variously assigned. The nature of these topics is such that they are directly useful in teaching. The three topics starred (227, Professional organizations for teachers; 234, Psychology of the learning process; and 311, Teaching as a profession) were rated high in background value by the larger group responding to this question. The other 32 were rated high by the larger group responding for direct application value.

THE QUESTION OF THEORY VERSUS PRACTICE; ABSTRACT AND THEORETICAL TOPICS; SOCIAL VALUES; AND THE LIKE

Since the data considered in this chapter pertain to the same issue listed as the second main criticism in the first chapter, it seems appropriate to discuss it further both in its local implications for the teachers college concerned and in its broader aspects as an issue of general concern to all those interested in the preparation of teachers.

1. *Do the replies of the graduates indicate much curricular material that does not function?*

The data from Tables XXIV, XXV, and XXVI indicate applicability for 52 per cent of all topics; and background value for 76.5 per cent of all topics when considering the high ratings. Only 13 topics were rated for applicability by fewer than 142 of the replies, and only one of these was ranked high by at least one-half of the people who had had the topic; furthermore, only 12 topics were rated for background by fewer than 142 of the replies and only 5 were ranked high by at least one-half of the people who had had the topic. The foregoing implies that for applicability about half and for background about one-fourth of the topics have medium or low value.

Likewise, a number of voluntary comments by the graduates

indicate a sensitiveness to the difficulty in making use of much that is offered in education, psychology, and sociology courses. These comments are given freely, and may represent typical attitudes at least among those teachers in service who have given the matter a little thought. These comments are presented under the various headings which seem most appropriate to their classification.

a) Too much theory, courses too general and not practical enough

1) In my opinion, general education courses as history of education, and the like, have very little practical value in teaching. Their value is only theoretical.

2) Our training is too much abstract theory and too little application. By the time we are ready to apply we have forgotten the psychology of the situation.

3) In my opinion entirely too many education courses are required. I believe the average student is lost in a maze of theories. This same material would be more comprehensible and of far greater value to a student with actual teaching experience back of him.

4) My personal criticism of the education courses is that they are too general.

5) Questioning: types to use and improvement. I have had the theory of this again and again but I cannot make it work out in actual experience. The students just don't respond the way they are supposed to according to theory. Other teachers I have talked with have had this same difficulty.

6) Practically all the material in education courses taken before actual practice teaching is lost, because it is so very general that one not accustomed to the work fails to comprehend the meaning or feel the necessity.

7) I feel that I have learned more psychology and education from my contact with different types of students than I ever learned from textbooks. I didn't believe the facts in education until I saw them exemplified in students.

8) I believe that the psychology and methods of teaching one's major subject could be effectively made into a credit course to be taken after the first course in practice teaching. Conferences and teachers meetings could then be given over to discussion of specific applications.

9) I hope that the study may lead to a more compact and intrinsic

training of teachers. We are educating in a democracy, but not many students know what they want or need. Such studies as this may tend to bring to the attention of those in authority what things should be stressed and what should be laid aside.

10) More actual experience, responsibility, and leadership for students. May some college lead in field of excursions to the actual, instead of theoretical, type of learning. Am in favor of experimentation and research attitude, more selectivity in courses, and fewer requirements.

11) I have received much of my practical knowledge from experience, from professional magazines, from educational meetings, from reading, from living in rural sections.

12) Casting no reflections upon the splendid efforts of the teachers' colleges, I believe the problem of discipline is badly neglected in their courses. It continues to wreck beginning teachers.

13) I think there should be more courses given in the teachers' colleges in the elementary school methods by instructors who have taught in these grades, since only they can fully understand the needs of the teachers going out into such positions.

14) My education courses were of great value to me, I think, because most of them were taken through extension classes while teaching, so I had a laboratory in which to make experiments.

15) I believe many of the check list topics were imparted to me by my critic teacher and not found in any course. I was especially fortunate in my teaching under supervision.

16) I have found the practice teaching of greatest value.

b) Recognition of the need for much background and professional information

1) I can think of nothing I had that I would have less of. It has all been worth much, if not as directly applicable material, at least as professional background.

2) I consider most of the topics of value as supplying professional background and general information.

3) I have found most of the education courses helpful in my teaching. However, through experience, I have learned that much depends upon the individual. We have to study each case and act accordingly.

4) I rated nearly every topic high under professional background because any topic related to education is highly important in form-

ing a rich and comprehensive foundation upon which to build teaching ideals.

5) I feel that a teacher should have a wide variety of knowledge because she never knows what she may be called on to do.

c) The need for more content or subject matter

1) In my work I have felt the need of more content courses. I do not know that a teachers' college could manage both content and methods courses—and of course the methods courses are valuable.

2) Give the student more solid subject matter and less theory because he must know his subject before he can teach.

3) Western needs more straight subject matter courses with education, psychology, and methods courses separate.

4) More subject matter should be taught in certain subjects before the prospective teacher is allowed to take any methods at all.

5) Too much is made of the supposed value of quartiles, graphs, normal curves, etc. More time should be devoted to the subject matter one expects to teach.

6) I had a smattering of many things I didn't use, and most of the things I could have used I had to learn by experience. In my estimation two or three general courses are sufficient. The others should be devoted to details of one's special field of teaching.

d) The need for a working philosophy of education and of teaching

1) I believe a few broad orientation courses could be substituted to good advantage for the learner for the many piecemeal ones now given at Western.

2) In my humble opinion, I think that our education courses often dabble in too many topics of value only to a specific teacher, and neglect trying to enable the student to formulate his philosophy of teaching. I feel that too large a percentage of our graduates do not have either a philosophy of life or a philosophy of teaching. To me, in so far as that is true, it remains the greatest weakness of our education courses.

3) The practical courses are the methods courses in the subject the prospective teacher wishes to teach. These courses should be of such a scope as to include objectives, aims, psychology, lesson planning, prevention and handling of discipline problems, testing, and things the teacher actually has to think about while teaching. Teachers, other than those of psychology and education, scarcely ever think of a philosophy of education or anything touching the history of education. Their problems are immediate and must be handled in a modern way.

e) The need for a new emphasis on social and economic values and problems

1) I consider that a radical adjustment is necessary in teaching. The courses offered, especially in social science, are not practical and offer no solution to the present economic conditions.

2) Too much attention is paid to the history of education, its growth and development, and not enough to present social conditions. Prospective teachers should be taught how to live with other people in the community.

3) Social adaptability in rural education is not nearly so vital as social adaptability in city life.

4) The rapidly changing conditions present a real problem in regard to what is most beneficial in the educational program. In my own classroom, I hardly know what to select and what to reject. However, I feel that any subject that has a bearing on character training or leisure-time activity is well worth while.

5) I am convinced of the necessity for all teachers of a sound sociological and psychological background, together with a general preparation in the philosophy and principles of education as a whole, in addition to their special training in a certain field of interest.

6) I think most of the courses are very good from the standpoint of preparing the teacher for her teaching but very poor when it comes to teaching her (or through her, those in her charge) the real art of living.

f) The need for more cultural contacts and appreciational courses

1) Culture as found in smaller sectarian colleges is needed in a teachers' college.

2) Teachers' colleges could do even more than is being done for the culture of their students.

g) The need for more ethical training

1) A keen sense of professional ethics certainly must be developed in the teachers' colleges.

PLANS, METHODS, AND ACTIVITIES USED TO MAKE CURRICULA MORE FUNCTIONAL

The criticisms offered and needs mentioned in the graduates' comments of the previous section overlap somewhat, but signify the need for practical material, economy of time, more emphasis on social and economic problems, more cultural contacts, and the

development of fundamental attitudes or a philosophy of education and of life. These issues are so interrelated that a discussion of any one of them will touch upon the others.

1. *Do teachers, as a group, actually use principles or training content without an awareness or appreciation of them?*

One comment sent in by an experienced teacher indicates that they do:

I think that as teachers we do not stop to analyze situations, and we are often unconsciously putting into practice the principles we gained through our education courses.

Some instances from the experience of the writer as a beginning teacher, before he had made any study of professional courses, show the same thing. A case of discipline arose in connection with the band. Because of poor attendance and attitude, it was necessary to deny one member, a high school boy, the privilege of playing in the band for a special occasion. Another instance concerned a high school girl who often annoyed her neighbors by whispering considerably, especially during periods of written work or tests. Inquiry revealed very defective vision regarding which she was unusually sensitive and which she tried to conceal. The first example implies the theory of disciplinary control, and the second, that of individual differences.

Other examples will occur to any experienced teacher. The crux of the matter is that a teacher often acts or makes decisions from a sense of fitness or perhaps according to intuition, without stopping to analyze, theorize, or generalize. If his solution is a success, he thinks little more about it. But there comes a time when he applies the same treatment in a similar situation with poor results. This situation now presents a problem—a difficulty—and provokes thought and theorizing about other alternatives. The study of other cases leads the teacher to theory, abstraction, and generalization. Such experiences may justify the study of theory courses. It may be that the first approach to any of the formal education and psychology courses should be through the concrete case—the study of one or a few specifics from which the inductions, principles, or generalizations may be derived. This is time-consuming and often tedious. It may, however, assist in offsetting the common criticism that these courses are abstract and indefinite.

Horn [A 27] mentions another difficulty in the organization of professional material. There are two conflicting principles: one is basic to practice and school organization, and uses horizontal levels such as the kindergarten, primary, upper elementary, junior and senior high school, and college; in the other, which is basic for the student of educational theory, the above horizontal divisions are relatively unimportant and scarcely recognized, and vertical divisions are used instead. These vertical divisions include courses in psychology, methods, measurements, management, administration, and the like. These courses also touch one or more of the horizontal levels or areas of school activity. The student must constantly make this dual adjustment in his endeavor to retain a proper perspective and to reduce the feeling of abstraction and confusion that comes from theory without sufficient practice or experiential background.

There is still another difficulty pointed out by Peterson [B 45] in a recent study of the philosophies of college instructors who give theory courses. He has found that they do not always have a consistent philosophy, nor do they always present prevailing points of view adequately and carefully. This tends further to confuse the student.

2. *What plans and methods are in use at Western Illinois State Teachers College to coördinate theory, philosophy, and practice?*

There are two phases to the problem—the pre-service period and the in-service period—which are separated by graduation. Ideally, there should be a continuity between these two periods. This would require some responsibility on the part of college instructors for the supervision and assistance of graduates new in the service, and of those having special problems.

In addition to the student teaching and supervision courses which are accompanied by numerous conferences, the curricular patterns given in Chapter II show that, in general, the theory courses are placed before the student teaching and supervision courses with two summarizing and integrating courses—educational psychology and philosophy of education—in the last year of the four-year curricula.

Besides, definite series of observation lessons are used as a part of the general and special methods courses. These take place in

the training school (grades one to eight inclusive), the coöperating rural and village schools, and the college high school. These lessons are usually taught by the critic teacher, and demonstrate classroom organization and the different methods of teaching. During 1933-34 a different kind of observation was tried with the beginning educational psychology course. Instead of the class observing, together, pre-arranged observation lessons, each student, during some of his free periods, made at least ten weekly observations during the twelve-week term. He first observed in the lower grades, then in the upper, and then in the high school. Later he concentrated on the group of grades of most interest and value according to his curriculum. The student was given an outline for guidance, made a brief written report on each observation, and was encouraged to use his data in class discussion. Throughout the course the instructor emphasized the idea that these observations constituted only one of a number of available sources for securing practical psychological data and illustrative material. Apparently the plan helped to improve the ability to observe, interpret, and evaluate psychological data and made more practical many of the laws and theories. It also helped in the development of a professional attitude, for students soon showed whether or not they were seriously interested in the learning and teaching problems basic to a teaching career. The plan may thereby serve incidentally as an exploratory course on the junior college level.

Another type of activity sponsored by the college is the in-service program. Educational programs and conferences are held for principals and city and county superintendents. Also, demonstration teaching is given in selected rural centers for rural teachers. In addition, there are extension classes which vary in character according to the needs of the teachers choosing the courses. Personal contacts made in such classes offer a fruitful opportunity to vitalize teaching and to emphasize the practical aspects of theory and philosophy of education. As one graduate felt (comment 14, page 111), the education courses were of great value because most of them were done in extension while teaching and this furnished a laboratory in which to make experiments. With the increasing emphasis on adult education, with the limited in-service training of teachers in the United States, with the need for a better understanding of social and economic

problems, and the need for more leadership, in the wise use of leisure time, it seems quite desirable that extension facilities should be continued and expanded. Perhaps more faculty members should have opportunity for vital contacts with actual problems in the field as presented by the teachers in service. This would tend toward a greater emphasis on the useful and practical with a consequent enrichment of the curricular offerings. It might also eliminate unnecessary and useless material and be a healthy challenge to theories and ideas.

3. *What plans or methods are in use at other institutions to coördinate theory, philosophy, and practice?*

The problem of integrating all courses, activities, and experiences for the thorough preparation of teachers has been well attacked by Prof. Bagley, and his plan seems worthy of wide adoption. He proposes the following terminology (data from Ed. 227M—Mimeograph Form M2):

- a) Professional integration courses, such as educational psychology, measurements, school management, administration, technique of teaching. Such courses deal with the professional knowledge that applies in a technical way to practically all subject matter fields.
- b) Professional content courses. These deal with the subjects which the student is planning to teach.
- c) Professional laboratory courses, such as observation, participation, and student teaching.
- d) Professional background courses include all other materials needed as professional equipment. They include educational sociology, foreign language, philosophy, educational biology, and history of education.

Wider use of these terms may aid in breaking down the dualism common between theory and practice, method and content.

Another interesting approach to this problem is the unit plan used at the Towson, Maryland, Normal School [B 54]. Here all departments unite in assisting the student to prepare units of instruction which he uses in actual teaching under guidance in the public schools. This gives a continuous integration of all elements of the school curriculum and affords a valuable means of coördinating all efforts of the entire faculty for a unified product—a graduate capable of teaching because he has actually prepared his teaching materials.

Another plan, described by President Baker [B 5] of the Milwaukee State Teachers College, should stimulate others by its originality and effectiveness. Small groups of students after two years of general training are given professional experiences, such as observations of teaching, managing, and planning. It is desired that all professional training grow out of these situations. Students are to discover problems, raise and study questions, and keep records of their activities. These lead to further questionings, readings, and conferences, and the formulation of conclusions. It is rather significant that the first problems raised are usually in philosophy of education. The claim is made that this plan has unified educational theory and practice. The former becomes a direct outgrowth of the latter.

At Teachers College, Columbia University, the recent plan, known as the New College plan, deserves study by those interested in better educated teachers. As reported by Alexander [B 1] it has both a major and a central seminar, the former intended to give training in the student's major field of interest, the latter to correlate, unify, and integrate problems and issues of a fundamental nature. The plan includes wide cultural, social, and economic contacts. The goal is broad scholarship and a real professional attitude. A year of interne teaching in the field under college supervision is provided, as a final phase, to coordinate theory and practice. The students are carefully selected and their period of training extends from three to five years.

There are doubtless other interesting plans in operation, but only a few more will be mentioned. Dunkle [B 19] in reporting for the Frostburg, Maryland, State Normal School states that theory and separate methods courses are eliminated. All topics pertaining to them are given in connection with the teaching of children by the normal school instructor, whose work is of a fourfold nature:

- a) To teach her subject to students in the normal school.
- b) To see that the practice schools and critics are in agreement with her in both subject matter and method in her special field.
- c) To know how effectively the practice-teacher actually learns to teach her subject to children.
- d) To be a critic for one or more grades which requires her to see the unified job of training a practice-student to fit into the type of job she will get after graduation.

This is in contrast with the plan used at the Oswego Normal and Training School as reported by Chittenden [B 10]. Here the training school is in a real sense the center of all activity and the coordinating agency of all departments. With the elimination of the critic teacher, every member of the faculty becomes both an instructor and a supervisor, teaching in college, and teaching and supervising in the training school. The theory courses are not dropped but are alternated with student teaching, in order that the student may organize and relate the various elements of his work more effectively.

Other plans are described by Evenden [B 20], Flowers [B 21], Garrison [A 25], and other writers. Each is designed to use all the available offerings in the acquisition of knowledge, skill, and culture to develop the best possible teacher.

Among the in-service plans are: regular extension classes, special educational meetings and conferences, the extension program in which a careful follow up is made of all graduates in service as described by Bathurst [B 6], and the Westfield, Massachusetts, conference plan by which college seniors, for one week in the spring, exchange places with the teachers in service. The latter meet at the college in a series of conferences under the direction of the college instructors.

LEISURE-TIME INTERESTS

Introductory Statement. The definition of leisure-time interests is so broad and inclusive that practically any activity may be so classified if one considered the individual desires and needs of all the individuals who gave usable replies to this topic. In some cases Column IV, Leisure-Time Interests, was omitted; in others it was only partly filled out. The distinction between high, medium, and low value of a topic for leisure-time interests may have been partly responsible for some of the incomplete returns. The purpose of this column was primarily to determine the relationship, if any, between the professional use of these topics, and their carry-over into leisure-time interests. A full investigation of leisure-time interests and activities of the teachers in service could easily be made the basis of an elaborate study, but sufficient data have been secured in this study to justify some tentative answers and conclusions. Some comments indicated a need for help in enriching pupils' leisure activities.

TABLE XXVII

A LIST OF TOPICS RANKED HIGH AS VALUABLE FOR LEISURE-TIME INTERESTS BY
ONE-THIRD OR MORE OF THE 430 INDIVIDUALS

Topic	f	Rank
2. Adolescent and preadolescent characteristics	167	2
3. Agencies of social control	160	2
4. Aims of education	152	2
7. Appreciation lesson	171	2
16. Associative learning	156	2
30. Character, conduct, and citizenship training	291	3
31. Characteristics and functions of good teaching	207	3
42. Comprehension in reading and its improvement ..	196	3
50. Coöperation of individuals or groups through organization ..	151	2
59. Derived social forces or interests: wealth, gov't, religion, etc. .	146	3
62. Discipline problems—causes	159	2
65. Disciplinary control by personal influence or traits	157	2
68. Economical methods of learning	145	2
71. Educational problems created by the modern machine age, industry, and science	168	3
72. Efficiency in work: causes, etc.	199	3
73. Emotional adjustments	168	2
74. Emotion theories and control	148	2
79. Ethical character training	200	3
80. Ethics of the teaching profession	203	3
86. Extracurricular activities—principles of organization, etc. ..	145	3
108. Growth periods of the child	145	2
110. Habit as a goal in learning	172	2
111. Health service administration	161	3
112. Hygiene of heating, lighting, and ventilation	184	2
123. Individual differences in pupils	210	3
133. Interest—how developed and maintained	215	3
142. Laws of learning	145	2
143. Learning to know pupils through study of records or social bkgd.	167	3
161. Mastering the subject matter for student-teaching	148	2
168. Mental hygiene for the teacher	216	3
176. Motivation through use of proper incentives	153	2
189. Objectives in teaching	160	2
191. Observation of children outside of classroom	212	3
197. Origin and social value of the family	155	2
206. Perceiving character traits	189	3
207. Personal problems of the teacher in relation to the community	232	3
208. Personal traits; alteration or improvement	228	3
209. Personal traits of the teacher and their measurement	203	3
212. Physical education teaching and its psychology	151	2
214. Play and playground equipment	151	2
217. Preparing specific objectives for teaching your subject	144	2
225. Professional improvement of teacher in service	203	3
226. Professional magazines or other reading for improvement ...	318	4
227. Professional organizations for teachers	196	3
249. Reading objectives	146	2

TABLE XXVII (Concluded) •

Topic	f	Rank
278. Sensations and feelings	143	2
299. Student teaching: learning to use library and magazines . . .	185	3
311. Teaching as a profession	186	3
317. Thinking, reasoning, and problem solving	186	3
325. Visual aids in instruction	155	2
Total number of topics	50	

1. *What is the extent of topics ranked high as valuable for leisure-time interests?*

The data for Table XXVII are derived by combining the replies for all curricula concerned. The list of 50 topics presented is secured from the complete tabulation for all topics. This smaller list contains 15.2 per cent of all topics and represents at least seven different courses, namely, Psychology, (17); Principles of Teaching, (15); Sociology, (8); Classroom Management, (8); Philosophy of Education, (1); and Student Teaching, (1).

Of these 50 topics listed, 25 were ranked 2; in other words, 25 to 49.99 per cent of those reporting on the topic considered it of high leisure-time value; 24 topics were ranked 3, being checked by from 50 to 74 per cent; one topic, No. 226, Professional magazines or other reading for improvement, was ranked highest, receiving 75 per cent or more of the replies. Perhaps all topics ranked 2 are of minor concern in judging their relative value for leisure time. Granting this assumption, we have left only half of the original number, or 25, ranking 3 or more. These are further considered in connection with the next question.

2. *What is the nature of topics ranked high as valuable for leisure-time interests?*

Table XXVIII has been prepared in the same way as the classification tables of the previous chapter using Osburn's types. This table shows that the larger number of topics fall under type 10, Manner or how; then type 8, Illustrations; and type 9, Major facts. Most of these topics are constant and persistent, and demand considerable attention on the part of the teacher in service. They include many of the so-called practical aspects of teaching, managing, and daily living. They also include some of

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the newer topics which our rapidly changing social order is forcing us to consider. Many of these topics carry over naturally into a leisure-time interest and activity. For this reason they should have an added value in their respective curricula for all teachers.

TABLE XXVIII

CLASSIFICATION OF TOPICS RANKED 3 OR HIGHER IN VALUE FOR LEISURE-TIME INTERESTS

Type of Topic	Number of the Topic on the Check List	f
3. Cause and effect	71, 72	2
5. Conditions	80	1
7. Functional relationship	31	1
8. Illustrations	191, 206, 207, 226	4
9. Major facts	59, 209, 227, 311	4
10. Manner	30, 42, 79, 111, 133, 143, 208, 225, 299	9
11. Meanings, definitions	168, 317	2
12. Principles and objectives	86, 123	2
Total		25

SUMMARY OF CHAPTER V

The following points in this chapter seem especially important:

1. There were few basic differences between the elementary curriculum and the high school curriculum when compared for applicability of topics: *a*) 161, or 49 per cent of all, were given identical ratings under *h*, *m*, and *l*; *b*) 129, or 39 per cent, were given two out of three identical ratings; a total of 299, or 88+ per cent which justified uniting data for Curricula A and C.

2. A total of 173, or 52+ per cent of all topics, were rated high for applicability to teaching, supervision, or other professional duties by 50 to 100 per cent of the replies; no topics were given a medium rating by over 49 per cent; 18 topics, or 5 per cent, were rated low by 50 to 74 per cent of the replies.

3. The following types include the majority of topics rating high in applicability: *a*) Manner, *b*) Illustrations, *c*) Major facts, *d*) Functional relationship, and *e*) Principles. The types—Advantages, Conditions, Meanings, Rules and laws—register few topics.

4. The 18 topics rated low in applicability include: 10 histori-

cal and philosophical, 1 psychological, 6 sociological, and 1 in tests and measurements.

5. Thirty-two topics show two different ratings out of three for applicability between Curricula A and C.

6. Some reasons for many similarities and few important differences between Curricula A and C in ratings on applicability are these: *a*) basing of judgment on teaching needs regardless of curriculum followed in college; *b*) some courses and basic topics that are similar or identical in the different curricula; *c*) transfer of students from one curriculum to another after an interval of teaching; and *d*) other minor factors of a local, social, or administrative nature.

7. There were few significant differences in the value of topics for professional background, attitude, and general information when comparing the two curricula, A and C.

8. Two hundred fifty-one topics, or 76.5 per cent, were ranked high for background by 50 to 100 per cent of the replies.

9. None were ranked medium or low by more than 50 per cent of the replies, from which we conclude that all topics have background value to some degree.

10. Topics rated high in professional background, attitude, and general information fall largely in these types; Major facts, Manner, Illustrations, Functional relationships, Meaning, and Principles and objectives.

11. A total of 133 topics, or 40.5 per cent, were given high ratings by more than 50 per cent of the replies both for direct value and background.

12. Thirty-five topics were given high ratings by relatively different-sized groups for applicability and background; 32 were rated high by the larger group for application and the other 3 by the larger group for background.

13. Voluntary comments by teachers indicate difficulty in using some curricular material found in education, psychology, and sociology courses. Several comments indicate the necessity for showing students that some curricular material is studied for valuable reasons other than direct use.

14. These comments are summarized as follows: *a*) too much theory, courses too general and not sufficiently practical; *b*) appreciation of material giving professional background; *c*) a need for more content courses; *d*) a need for more emphasis on social

and economic problems; *e*) a need for more and wider cultural contacts; *f*) a need for more ethical training; *g*) more help in working out a philosophy of education.

15. Teachers probably use some educational principles and training content without an awareness or appreciation of them.

16. Methods used at Western Illinois State Teachers College to coördinate theory, philosophy, and practice: *a*) placement of theory courses before practice teaching and supervision; *b*) final integrating courses in educational psychology and philosophy of education; *c*) observation as an integral part of general and special methods courses and of the first course in educational psychology; *d*) special educational programs and conferences; and *e*) extension courses for teachers in service and other qualified adults.

17. Methods used elsewhere to coördinate theory, philosophy, and practice: *a*) the use of Professor Bagley's terminology to distinguish the four kinds of courses; *b*) the unit plan of coördination used by Towson, Maryland, State Normal School; *c*) development of theory and principles from professional contacts such as observations, conferences, and seminars, as used in Milwaukee State Teachers College; *d*) New College plan at Teachers College, Columbia University, with major and central seminars, courses of instruction, and contacts in the major fields of human knowledge; *e*) omission of theory courses, and use of a normal school instructor for college teaching, teaching of children, and supervision of student teaching as at Frostburg State Normal; *f*) as in *e*) but with the addition of theory courses alternated with student teaching as used at Oswego Normal and Training School; *g*) various departmental or divisional coördinations provided by administrative organization; *h*) in-service plans, as extension classes, a follow-up of graduates, the Westfield, Massachusetts, conference plan, and special educational meetings and conferences.

18. Topics rated high for leisure-time interests include 50, or 15.2 per cent of the total.

19. These topics occur in seven courses: *a*) Psychology, *b*) Principles of Teaching, *c*) Sociology, *d*) Classroom Management, *e*) Philosophy of Education, and *f*) Student Teaching.

20. These topics are of three types: *a*) Manner, *b*) Illustrations, and *c*) Major facts.

21. They are largely practical and have a direct transfer.
22. The topic, Professional magazines or other reading for improvement, was rated high by more teachers than was any other topic. Character, conduct, and citizenship training comes second.
23. The data indicate that the majority of teachers in service seem to seek leisure-time interests and activities aside from topics of the check list.

CHAPTER VI

FUTURE TREATMENT OF THE TOPICS FOR THE PROSPECTIVE TEACHER

EXTENT AND NATURE OF THE TOPICS TO BE REQUIRED OF ALL STUDENTS

SINCE the judgments recorded in Column VI of the check list are based on experience regardless of whether the topic was studied in college courses or elsewhere, the data should represent a cross section of the various categories previously considered. The assumption was made that some topics are so valuable that they should be included in the curriculum for all prospective teachers, some have a limited value and should be required of special groups only, some are of questionable value, and some should be omitted.

The data are taken from Column VI of the check list for all curricula and presented as Table XXIX, a part of which is shown on the next page. It is interpreted as follows: topic 10 was reported by 350 teachers, of whom 127, or 25 to 49 per cent (2), would require it (see column *r*) of all prospective teachers; 203, or 50 to 74 per cent (3), consider it has specific value only for limited groups (see column *s*); 18, or fewer than 25 per cent (1), consider it of questionable value (see column *q*); and 2 said it should be omitted (column *o*).

1. *What proportion of the topics were rated under r, s, q, and o?*

Table XXX gives the numbers of topics ranked as *r*, *s*, *q*, and *o* by the three groups—25 to 49, 50 to 74, and 75 to 100 per cent of the total number of persons checking them. It shows that 77 were marked required by 25 to 49 per cent; 96 by 50 to 74 per cent; and 143 by over 75 per cent of all those checking them. Combining the two latter groups, we get 239 topics or 72.8 per cent of all—a rather high number when one considers that the full list of topics is a composite of courses offered in three different curricula. Table XXX further shows that 47 topics were

TABLE XXIX

THE FUTURE TREATMENT OF TOPICS FOR THE PROSPECTIVE TEACHER AS JUDGED
BY GRADUATES AND STUDENTS

Sample of Complete Table

Topic	Total	^r To be Re- quired of All		^s Specific Value for Limited Groups		^q Of Que- stionable Value		^o Omit	
		f	r	f	r	f	r	f	r
10. Association and satisfaction in arithmetic teaching	350	127	2	203	3	18	1	2	1
14. Articulation problems of elementary and high school	365	255	3	90	2	17	1	3	1
26. Business management in school administration	386	219	3	146	2	15	1	6	1
39. Clubs as social agencies in rural communities	370	67	1	286	4	13	1	4	1
52. Course construction for elementary or high school subjects	393	266	3	115	2	10	1	2	1
71. Educational problems created by the modern age—machine—industry and science	397	321	4	51	1	23	1	1	1
100. Functional or service plan of community organization	424	231	3	121	2	62	1	10	1
111. Health service administration and organization	400	326	4	67	1	7	1	0	1
118. Humanism in post renaissance period	374	120	2	84	1	132	2	38	1
137. Land occupancy as a social factor in rural community	367	100	2	219	3	33	1	15	1
164. Mathematics difficulties and how analyzed	376	123	2	239	3	6	1	8	1
182. Nature study—psychology of . . .	380	158	2	206	3	12	1	4	1
204. State authorization and control of public schools	365	234	3	101	2	25	1	5	1
310. Teacher tenure, promotion and salary	387	321	4	34	1	28	1	4	1
327. Wholesome and unwholesome opposition in society	380	286	4	50	1	38	1	6	1

considered as having specific value for only limited groups by the second lowest percentage group of graduates (2), 49 topics were so considered by the next larger percentage group (3), and 5 by the highest percentage group (4). The last two added make 54 topics or 16+ per cent of all the topics. This is a small percentage and indicates that teachers in service apparently question a narrow specialization and differentiation. At least it implies the inclusion in all curricula of much that has been considered of specific value. In other words, most graduates seem in favor of a broad background and foundation before much specialization.

No topics were questioned by more than 50 per cent of all

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TABLE XXX

FUTURE TREATMENT OF TOPICS FOR THE PROSPECTIVE TEACHER
Topics Arranged According to Types and Percentage Groups Making the Ratings

Type of Topic	r Require of All			s Specific Value			q Questionable Value
	2	3	4	2	3	4	2
	25% 49%	50% 74%	75% 100%	25% 49%	50% 74%	75% 100%	25% 49%
1. Advantages and disadvantages	1	4	2	1	1	0	0
2. Arguments	0	1	0	1	0	0	1
3. Cause and effect	1	5	9	1	0	0	0
4. Comparison	1	1	0	1	0	0	1
5. Conditions	4	5	3	1	5	0	0
6. Evidence	0	0	0	0	0	0	0
7. Functional relationship ..	3	6	18	1	2	0	1
8. Illustrations	6	12	33	4	6	0	1
9. Major facts	33	23	24	19	17	3	10
10. Manner	10	23	33	10	8	2	0
11. Meanings and definitions ..	11	13	7	6	5	0	2
12. Principles and objectives ..	2	2	11	1	2	0	0
13. Rules and laws	5	0	1	1	3	0	1
14. Trends	0	1	0	0	0	0	0
Total	77	96	143	47	49	5	17

people checking them. There were but 17 topics considered of questionable value by 25 to 49 per cent, but 311 were so evaluated by 1 to 24 per cent. As to the topics for omission, 308 topics were given this judgment by 1 to 24 per cent. No topic was so rated by any larger group.

2. *What is the nature of the topics to be required of all prospective teachers?*

Table XXX also shows the types under which the topics marked *r*, *s*, and *q* (by over 25 per cent of those ranking them), may be classified. Omitting the topics under 2, and combining those under 3 and 4, we have the following number of topics in each type: *a*) Manner, 56 topics; *b*) Illustrations, 47; *c*) Major facts, 47; *d*) Functional relationship, 24; *e*) Meanings, 20; *f*) Cause and effect, 14; *g*) Principles and objectives, 13.

TOPICS CONSIDERED OF SPECIFIC VALUE FOR LIMITED GROUPS

Table XXX shows how many topics in each type were rated specific value by the different percentage groups of graduates.

The types and number of topics under 3 and 4 in each are: *a*) Major facts, 20 topics; *b*) Manner, 10; *c*) Conditions, 5; *d*) Illustrations, 6; *e*) Meanings, 5; *f*) Rules and laws, 3. The types do not necessarily explain the presumed limited value of the topics. It is better explained by a study of their nature. A few are therefore listed:

- No. 13. Art teaching and its psychology.
 35. City school district.
 38. Clubs for rural pupils.
 *39. Clubs as social agencies in rural communities.
 75. English teaching: psychology of.
 *96. Foreign language—psychology of teaching.
 134. Junior high school plan—advantages and weaknesses.
 *135. Kindergarten and nursery methods and schools.
 163. Mathematics teaching and psychological problems.
 178. Music: psychology of vocal and instrumental forms.
 *194. Organization of the one or two room rural school.
 222. Principal of the high school—duties and relationships.
 *268. Rural school teacher—qualifications and training.
 273. School plant: standards and practices for janitor service.
 303. Superintendent of schools: fourfold nature of his work.

The topics starred were rated specific value by 75 to 100 per cent; the others, by 50 to 74 per cent of those rating them. The total 54 topics rated specific value by 50 per cent or more come from only a few courses: 25 topics from Rural School Management and Rural Sociology; 17 from Psychology of Secondary Education; 10 from School Administration, and 2 from Primary Methods. The two rural courses furnish almost half of these topics. •

TOPICS CONSIDERED OF QUESTIONABLE VALUE

No topics were considered of questionable value by more than 50 per cent of those checking them (Table XXX). The 17 topics so considered by 25 to 49 per cent include 13 from History and Philosophy of Education, 3 from Psychology, and 1 from Sociology.

TOPICS TO BE OMITTED FROM COURSES

As to omission of topics, little can be said since the 308 topics given this judgment were so rated by only 1 to 24 per cent of the replies. No topics were rated for omission by any larger group.

This is a rather small comparative group of judgments on which to base any reliable conclusions concerning omission.

SUMMARY OF CHAPTER VI

1. A total of 239 topics, or 72.8 per cent of all topics, were considered of sufficient value (by 50 to 100 per cent of those checking them) to be required of all prospective teachers.

2. Fifty-four topics, or 16+ per cent, were considered as having specific value for limited groups by 50 to 100 per cent of those checking.

3. Only 17 topics were considered of questionable value by the 25 to 49 per cent group, which is the largest group giving this rating.

4. No topic was rated for omission by more than 25 per cent of the replies.

5. The data seem to indicate that teachers in service prefer a broad background of training and do not favor much differentiation.

6. The topics to be required of all prospective teachers are of the following types: *a*) Manner, *b*) Illustrations, *c*) Major facts, *d*) Functional relationship, *e*) Meanings, and *f*) Cause and effect.

7. About half of the 54 topics of specific value for limited groups are from Rural Sociology and Rural School Management; most of the others are from Psychology of Secondary Education and from School Administration.

8. The 17 topics considered of questionable value by 25 to 49 per cent of those checking are taken largely from History and Philosophy of Education.

CHAPTER VII

SUMMARY OF THE FINDINGS

DUPLICATION OR REPETITION OF TOPICS

THE data in Chapter IV show that much of the repetition of topics in different courses is considered helpful, that in certain groups of courses there appears to be some unnecessary repetition, but that a very serious problem of unnecessary duplication of topics does not exist.

An analysis of content shows that considerable duplication of topics appears in closely related groups of education and psychology courses. A comparison of the special methods courses with certain education and psychology courses discloses a large amount of duplication. The relationship between the methods courses and the education courses is not clearly defined. There is some uncertainty as to what the exact content of special methods courses should be. The proportion of professional topics and subject matter varies some with the instructor and with the department.

The amount of helpful repetition in the elementary curricula, i.e., the two-year, the two-and-a-half-year, and the four-year curricula, includes about half of all topics. The problem of unnecessary repetition is not very serious in the two-year and the two-and-a-half-year curricula. It may need some attention for the four-year curriculum.

The four-year curriculum for high school teachers, special teachers, and principals had very nearly half of the topics rated as helpful repetition. For unnecessary repetition, we find fewer than half of the topics so reported, these responses being made by one-fifth to one-fourth of the graduates. This group of students may represent those of superior ability who need less re-emphasis and repetition in courses than do students of average ability.

Teachers in service designated a number of topics as needing more attention, emphasis, or repetition. Evidently these topics

are somewhat neglected, or at least inadequately treated under the present organization of courses. The persons recommending the inclusion of these topics may not have taken the courses in which the topics occur; may have forgotten having them, or may have misunderstood (or failed to recognize) the topic as it was worded on the check list; or the topic may have been added since their graduation.

One cannot say positively when repetition of a topic should occur in different courses, for it depends on several considerations. Repetition of a topic must not be confused with its professional treatment, which is a different kind of treatment in various courses. Repetition may be desirable for review, for emphasizing its importance, for assistance in understanding later work, and for stimulation and motivation of the student. With different instructors and a varying personnel of classes, it is possible that a topic may be effectively taught by a single treatment, or it may be helpfully repeated, or it may be overemphasized to the point of unnecessary repetition. Some topics, however, are so basic and important that they should be repeated regardless of varying conditions.

THE DIRECT APPLICABILITY AND THE BACKGROUND VALUE OF TOPICS

Much similarity in applicability of topics (in classroom teaching, supervision, or other professional duties) appeared when comparison was made between the elementary and high school curricula. This is largely explained by: *a*) the difference between positions prepared for (curricula followed) and positions secured, *b*) the large amount of identical and similar material in all curricula, and *c*) students' transfer from one curriculum to another.

The applicability of a topic depends not so much on its type (Manner, Illustrations, Major facts, etc.) as on its individual nature. Those topics rating high represented practically all courses; those rating low included more historical, philosophical, and sociological topics than other kinds. However, many topics ranking low for applicability ranked high for professional background and attitude.

Since the use of topics for professional background and attitude including general information would be quite similar for all

curricula, it was only natural to expect much uniformity between curricula in their ratings. Since no topic was ranked medium or low by more than half of the replies, we conclude that all topics apparently have some indirect or background value to teachers.

As two-fifths of the topics were ranked high both for applicability and background, we infer that a topic may have both values. The tendency is to think of certain practical topics as of direct value only and other more abstract or theoretical ones as background only. The present data should modify this view.

Teachers find difficulty in making direct application of certain professional topics, such as abstract material from historical, philosophical, and sociological courses. Apparently students often judge topics by the pragmatic test and are disappointed. They need to realize more the value of historical, philosophical, sociological, and related material as a foundation for their points of view and for developing their philosophies of education. They also need to regard their positions in relation to the total situation instead of from a narrow, vocational point of view. The data signify that most teachers realize the importance of indirect values. Teachers probably use educational principles and theories in practice without an awareness or appreciation of them. How extensive this use is one cannot say.

Since many methods are used at Western Illinois State Teachers College and elsewhere to reduce the dualism between theory and practice, to make topics functional, and to coördinate the various elements of a curriculum, there is obviously no single solution for the difficulty. Here, again, enter individual differences, making it easy for some students and difficult for others to connect all the elements of successful teaching. The range in mental traits of college students extends from the intensely practical to the very abstract and theoretical-minded. It would seem reasonable to suppose that their positive reaction to various curricular material would vary in direct proportion to their mental traits—the most practical and direct-minded being most interested in application as in laboratory courses, the more abstract-minded being more interested in theory and philosophy courses. This suggests that each method used to unify theory and practice during both training and in-service periods has its value and that a variety of methods is conducive to adequate results.

The topics rated high for applicability and background are of

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the following types: Manner, Illustrations, Major facts, Functional relationship,* Cause and effect, and Principles and objectives. There is a close relationship between application and type for the topics belonging to the first three types above. In general, however, the value of a topic is determined not by its type but largely by its nature, the methods of teaching it, the teacher's personality, and other factors.

FUTURE TREATMENT OF THE TOPICS FOR THE PROSPECTIVE TEACHER

The majority of graduates would require almost three-fourths of the topics for the training of prospective teachers. As the directions gave no basis for this judgment, it is probably a composite one and hence perhaps more reliable. Only a small number of topics were designated as being of questionable value. Teachers in service either are not very critical, or else they find some use for all that was included in their curricula.

Comparatively few topics were rated for specific value. This implies that graduates do not favor much specialization or differentiation, and challenges early specialization preceding adequate and thorough basic training. The courses represented by the topics recommended for special groups are: Rural Education, Rural Sociology, Public School Administration, and the Psychology of Secondary School Subjects. From this, graduates evidently recognize the value of some later specialization and differentiation. It may be that each curriculum should include either certain important units from these courses, or the entire content.

LIMITATIONS OF THE PRESENT STUDY

This investigation has been confined largely to one institution. Such a plan has advantages as well as limitations. The greatest advantage is that it allows intensive study in which one can give thorough attention to a few issues and point out the implications of certain subordinate and related ones. However, some of the data are of local interest only. The difficulty of determining which issues were of both local and general interest created a problem regarding the extent of their treatment.

The check list of 328 topics was quite long, but this seemed unavoidable since the topics comprised 21 courses from three

curricula. The length discouraged some from replying. For each topic there were six categories to check. This required a variety of judgments which probably tended to confuse the thinking. Concerning repetition, many of those replying found it hard to remember whether they had had certain topics in the regular college courses or elsewhere. This difficulty was partly compensated for by four other judgments which did not depend on memory essentially, but on experience and interests.

Since the checking depended largely on memory, the difficulties were increased by the fact that a list of graduates going back as far as the four-year graduates of 1926 were asked to mark the check list. It might have been better in such a study to have included only graduates of more recent years. Most of the replies, however, came from the graduates of the last five years (Table II).

Another difficulty for the person marking the check list was in the isolation of so many separate topics, some of which were comprehensive units of instruction; some, major topics; and others, subordinate topics. Professional investigation of curricular material must both analyze and synthesize, but the college student or public school teacher only integrates and synthesizes for his own needs.

Three different curricula were represented in the replies but not in equal proportion. The two-year and two-and-a-half-year elementary curricula were represented by 150 replies; the four-year elementary by 30 replies; and the four-year high school curriculum by 250 replies. As the curriculum for grade principals and superintendents is so similar to the other elementary curricula those few replies were placed with the elementary group. In the organization of data, the unequal distribution of replies created several problems, especially those of maintaining consistency and reliability and of making comparisons. A more even distribution of returns might have been better for the part dealing with repetition. In organizing other parts of the study, the uneven distribution was less of an obstacle.

In the development of an adequate curriculum, one must use a variety of criteria and cannot rely entirely on the judgment of those who presumably are testing the effectiveness of their training by actual teaching or supervision in the public schools. One must avoid the conclusion that the status quo should deter-

mine the content of any curriculum. It furnishes a compelling challenge, but has its limitations as a complete guide. According to this one criterion, the topic may be reported as non-functional, but that is no conclusive reason that it may not function or be made to function. College authorities responsible for curricular content and methods of teaching should consider this point. In addition to criteria previously mentioned, one must include expert opinion, probable future changes, new problems constantly arising, and significant experience of experimental groups.

As to the use of topics for leisure-time interests, only about 16 per cent ranked high. These were of three types: Manner, Illustrations, and Major facts. They are of a practical nature and grow directly out of teaching activities. As leisure is so variously defined and used, it was probably more difficult to make judgments for this category than for any other, and proved less fruitful of results. Perhaps this question could have been omitted, thus reducing by one-sixth the total number of judgments to be recorded on the check list. It has no fundamental bearing on the real issues. It would make a separate piece of research.

RECOMMENDATIONS

The following recommendations seem appropriate after a thorough study of all data secured in this investigation and the use of other source material:

1. The reduction of the number of special methods courses and the addition of subject matter courses or additional time devoted to the present ones.
2. A thorough professional treatment, including the use of Randolph's variants, of the subject matter courses used to illustrate special methods of teaching.
3. A more intensive study of the relation of the special methods courses to the remainder of the curriculum in order to clarify each field and avoid the unnecessary overlapping and duplication.
4. A clarification of the boundaries in the treatment of certain professional topics in special methods, general methods, education, and psychology courses.
5. Use of the following plan to meet the problem of the duplication of topics:

- a) The assembling of objectives or aims for each course by instructors teaching it or by a committee.
- b) Organization of the courses by units of instruction and topics to be included.
- c) Some plan should be used of marking certain units or parts to provide for the necessary duplication and for the avoidance of unnecessary repetition in the various courses offered in each curriculum.
- d) Prepare syllabi or outlines for the education courses to be made available in a centrally located room for all college instructors.
- e) Reorganize and revise these outlines every two or three years.
- f) When an instructor plans to offer a new course or a new unit for a regular course, he should submit to the curriculum committee a complete outline as given under *a* and *b* above. For a new unit he should submit the following:
 - 1) Name and brief outline of the unit.
 - 2) Reasons for teaching the unit.
 - 3) Objectives to be realized.
 - 4) Approximate number of periods to be used.
 - 5) Required readings.
 - 6) Additional comments.

6. The frequent inter-visitation of classes by college instructors to develop a unity of purpose and an acquaintance with the best methods of teaching.

7. The supplying of each instructor with a list of the topics which replies of graduates indicated were being neglected or underemphasized, and also with a list of the topics which they recommended for inclusion in courses.

8. The requirement of not more than one course in Tests, Measurements, and Statistics in each curriculum.

9. The coöperative preparation of pre-tests, other tests, and examinations for the professional courses, as a check on essentials of these courses and duplications.

10. In case 9 above is impractical, a committee study of all the final examination questions for the professional courses, in order to find duplications and to make suggestions for changes.

11. During the first year, the provision of a course, Introduction to Education, having the following objectives in mind (quoted from a special report by a member of the Committee on Curriculum of the Interstate Conference on Common Problems of Teachers' Education, 1930, par. 51):

- a) To provide orientation with respect to the fields of teaching and the opportunities and responsibilities of each.
 - 1) To assist in the selection of the field for special work.
 - 2) To assist in giving professional background for the work of the other courses in the school.
- b) To provide early contacts with the training school and with teaching situations.
- c) To supply some of the more fundamental principles and points of view which are usually included in such courses as "Principles of Teaching," "Educational Sociology," and "History of Education," and which should be given early in the professional curriculum so that all courses may build upon them or illustrate them without stopping to teach or re-teach them.

The purpose of this course is introductory and thus it paves the way for proper repetition and expansion of certain basic units in later courses.

12. The preparation of a list of the topics which do not now seem to function in teaching and the development of a plan for a different type of treatment in class. Follow this up with a later brief check to see whether such topics have then become functional. Such a study may continue for several years with the final results used to modify the treatment of, or to exclude, such topics.

13. The wider use, if possible, of more practice teaching facilities in order to correlate more thoroughly the theoretical and practical courses by means of more teaching, managing, and supervision experiences in the public schools.

14. With a gradual increase in the pre-service training period of the prospective teacher to three, four, or even five years, the postponement of the specialization of lower, upper, all grade, and junior or senior high school teachers until the student has completed considerable basic study, has made wide contacts on all teaching levels, and has acquired some actual teaching experience beyond student teaching.

15. Additional emphasis on the idea that courses or parts of courses having theoretical, abstract, philosophical, and historical

material are basic to an adequate professional background, and aid in the continuous development of a sound philosophy of education.

16. An orientation course on the junior college level to include the physical, biological, social, and educational sciences, in order to assure that all students have a wide contact with the basic fields of human knowledge.

17. Additional emphasis on and attention to the four-year elementary curriculum for teachers, principals, and supervisors, in order to meet the demands for higher standards and to bring such training up to at least the minimum level of training for high school teachers.

18. The continuation and expansion of extension classes with a plan whereby additional college instructors may have some opportunity to assist and make more contacts with teachers and administrators in the field.

19. A closer coördination of the training school with both the education department and the subject departments through informal visits and observations of student teaching by the college students and the instructors.

20. The preparation of teaching units for the public school through the coöperative efforts of all departments and agencies concerned, as the subject matter specialist, the education and psychology instructor, the critic teacher, and the librarian.

21. The organization and filing of certain or all of these teaching units in a central and convenient library so they will be available to all students and instructors of the college, and to the teachers in the field.

22. Consideration in several faculty meetings each year of the closer coördination of all departments in the training of teachers.

23. A careful study of the relative merits of the quarter versus the semester plan of organization for the state teachers college. This should include administrative considerations as well as the curricular and teaching problems.

SOME PROBLEMS FOR FURTHER STUDY

1. Are judgments as to use of topics affected by varying amounts of teaching experience?

2. What is the effect on the teaching process when a teacher has had both training and experience on different grade levels?

3. Does the length of teaching experience influence teachers' judgments on repetition, applicability, or background value of topics, and if so, how?
4. Is the reaction to repetition, applicability, and background value of topics based fundamentally on general intelligence?
5. What are the effects on teaching efficiency when the preparation has been for a different type of position than the one secured?
6. What is the actual demand and supply of teachers in the territory served by the teachers college?
7. How should the demand and supply of teachers affect the organization of curricula?
8. To what extent are college instructors aware of the problem of duplication, and how do they meet it?
9. What is the best plan of organization to insure sufficient subject matter and its professional treatment?
10. What should be the ideal relationship between special methods courses and those in education and psychology?
11. Should the state teachers college drop all two-year and two-and-a-half-year curricula and plan definitely for the three-year or four-year period of undergraduate study?
12. Should the state teachers college plan for a fifth year of study leading to the Master's degree?
13. What effects have the orientation courses in the first two years on later success in courses, development of a solid background, and efficiency in teaching?
14. Is there need of several special methods courses, or can they be effectively replaced by one general methods course?
15. Can our curricula be re-organized to make some of the little used topics more functional in teaching?
16. Could some of the professional material be omitted?
17. What is the most effective plan of organization to include sufficient cultural, art, and music contacts?
18. How can courses in education, psychology, and history and philosophy of education be best organized and taught to develop a functional and growing philosophy of education?
19. What type of curricular material is best adapted to help the teacher choose leisure interests?
20. What curricular material should be made available to assist the teacher in directing her pupils' leisure activities?

APPENDIX

LIST OF TEXTBOOKS, OUTLINES, AND SYLLABI ANALYZED

CLASSROOM MANAGEMENT

- Johnson, F. W. *Administration and Supervision of the High School*
Linder, R. G. *Outline of a Course in Classroom Management for Junior and Senior High School Teachers.*
Mueller, A. D. *Progressive Trends in Rural Education.*
Sears, J. B. *Classroom Organization and Control.*

EDUCATIONAL PSYCHOLOGY

- Averill, L. A. *Elements of Educational Psychology.*
Gates, A. I. *Elementary Psychology.*
Judd, C. H. *Psychology of Secondary Education.*
Reed, H. B. *Psychology of Elementary School Subjects.*

HISTORY AND PRINCIPLES OF EDUCATION

- Harap, H. *Technique of Curriculum Making.*
Hart, J. K. *Democracy in Education.*

PRINCIPLES OF TEACHING

- Douglass, H. *Modern Methods in High School Teaching.*
Lowth, F. J. *The Country Teacher at Work.*
Minor, R. *Principles of Teaching Practically Applied.*
Stoimzand, M. J. *Progressive Methods of Teaching.*

PUBLIC SCHOOL ADMINISTRATION

- Cubberley, E. P. *Public School Administration.*

SOCIOLOGY

- Hawthorn, H. B. *The Sociology of Rural Life.*
Ross, E. A. *Principles of Sociology.*

STUDENT TEACHING

- Simpkins, R. R. *An Outline for Student Teaching.*

SUPERVISION

- Anderson, C. J., Barr, A. S. and Bush, M. B. *Visiting the Teacher at Work.*
Simpkins, R. R. *An Outline for Supervision Courses.*

TESTS, MEASUREMENTS, AND STATISTICS

- Linder, R. G. *An Outline for Tests, Measurements, and Statistics.*
Madsen, I. N. *Educational Measurement in the Elementary Grades.*

- Mort, P. R. *The Individual Pupil*.
 Odell, C. W. *Educational Measurement in High School*.

SPECIAL METHODS COURSES

ENGLISH, LANGUAGE AND GRAMMAR

- Anderson, C. J. and Davidson, I. *Reading Objectives*.
 Cather, W. *Educating by Story-Telling*.
 Gardner, E. E. and Ramsey, E. A. *A Handbook of Children's Literature*.

GEOGRAPHY

- Branom, M. E. and Branom, F. K. *The Teaching of Geography*.

HISTORY

- Tryon, R. M. *Teaching of History in Junior and Senior High School*.

MATHEMATICS

- Breslich, E. R. *Problems in Teaching Secondary School Mathematics*.
 Morton, R. E. *Teaching Arithmetic in the Primary Grades*.
 Schultze, A. *Teaching of Mathematics in Secondary School*.
 Stone, J. C. *How to Teach Primary Number*.
 Taylor, E. H. *Arithmetic for Teacher Training Classes*.

COLLEGE PUBLICATIONS

- Western Illinois State Teachers College Quarterly*. Vol. XI, No. 1, June, 1931,
 General Information and Curriculum.
 —. Vol. XII, No. 1, June, 1932, General Information and Curriculum.
 —. Vol. XII, No. 2, September, 1932, Register of Graduates and Students.

TOPICS OF THE CHECK LIST

1. Administering and scoring standard tests.
2. Adolescent and preadolescent characteristics.
3. Agencies of social control.
4. Aims of education—elementary or secondary.
5. Alexandrian period in education.
6. Anticipation of policies in modification of behavior.
7. Appreciation lesson—nature and plan.
8. Aptitude or prognosis tests.
9. Aristotle: influence and work.
10. Association and satisfaction in arithmetic teaching.
11. Arithmetic drills, psychology of.
12. Arithmetic needs of pupils with varying ability.
13. Art teaching and its psychology.
14. Articulation problems of elementary and high school.
15. Assigning the lesson.
16. Associative learning.
17. Athenian conservatives and their attitude.
18. Athenian folkways and their breakdown.
19. Athenian world: education in their folkways.
20. Attendance school law and census.

21. Attention—constructing and using individual pupil profiles.
22. Behaviorism and its educational implications.
23. Binet-Simon test—demonstration.
24. Biological foundation of education.
25. Board of education members—qualifications, duties, etc.
26. Business management in school administration.
27. Causes and preventatives of race conflicts.
28. Causes of urban growth.
29. Central tendency measures—mean and median.
30. Character, conduct, and citizenship training.
31. Characteristics and functions of good teaching.
32. Child-centered school.
33. Child nature in classroom management.
34. Christianity: history and influence on education.
35. City school district.
36. City school department organizations.
37. Class group attention and its improvement.
38. Clubs for rural pupils.
39. Clubs as social agencies in rural communities.
40. Communication and transportation as rural social agencies.
41. Comparative study of American and European secondary education.
42. Comprehension in reading and its improvement.
43. Conferences with critic teachers.
44. Conflict between industrial workers and their employers.
45. Conflict between young and old for social control.
46. Conflicting psychologies of learning (Bode).
47. Connecting mechanism—nervous system.
48. Constructive or preventative aspects of discipline.
49. Contrasts and conflicts between town and rural groups.
50. Coöperation of individuals or groups through organizing effort, will, and thought.
51. County organization and boards of education.
52. Course construction for elementary or high school subjects.
53. Correlation—use and limits.
54. Criteria for choosing tests.
55. Criteria for evaluating routine.
56. Culture as transmitted by imitation or instruction.
57. Curriculum—theories and practices.
58. Democratic ideal: equal social, professional, and educational opportunity.
59. Derived social forces or interests: wealth, government, religion, knowledge.
60. Deterioration of social and economic forces.
61. Development lesson—inductive, deductive technique.
62. Discipline problems—causes.
63. Disciplinary control by preventative methods.
64. Disciplinary control—punishments.
65. Disciplinary control by personal influence or traits.
66. Domination and exploitation of individuals or groups.
67. Drawing and graphic art—psychology of.
68. Economical methods of learning.
69. Education as generalized experience.
70. Education as natural growth—Rousseau.
71. Educational problems created by the modern age—machine—industry and science.

72. Efficiency in work: causes, conditions, and factors influencing it.
73. Emotional adjustments.
74. Emotion: theories and control of.
75. English teaching: psychology of.
76. The E. Q. and the A. Q.
77. Essay questions—improvement and limitations for testing.
78. Ethics of student teaching.
79. Ethical character training.
80. Ethics of the teaching profession.
81. Evolution of the educative process.
82. Experience of student teaching.
83. Experimentalism and experimental schools.
84. Experiments in learning.
85. Extra-curricular activities—historical sketch.
86. Extra-curricular activities—principles of organization and control.
87. Extra-curricular clubs described.
88. Eye-movements in reading analyzed.
89. Fatigue in relation to learning.
90. Fatigue in socialization of rural people.
91. Federal Dep't of Education—reasons for and against.
92. Filing system of cards and folders for teaching materials.
93. Financing public schools—state and local support.
94. Federal support of public education.
95. Folkways—methods of education.
96. Foreign language—psychology of teaching.
97. Frequency distribution of data.
98. Functions and limitations of personal competition.
99. Functionalism in educational psychology.
100. Functional or service plan of community organization.
101. General intelligence testing—use and limits.
102. Geography teaching—laws of association and satisfaction.
103. Geography teaching—psychology of.
104. Geographic features in socialization of rural community.
105. Gestalt psychology—meaning and value in education.
106. Grading and promotion of pupils—by subjects and grades.
107. Graphs: their construction and use in teaching.
108. Growth periods of the child.
109. Growth of fixed forms for social procedures and institutions.
110. Habit as a goal in learning.
111. Health service administration and organization.
112. Hygiene of heating, lighting, and ventilation.
113. Historical sources of an educational psychology.
114. History teaching: psychology of.
115. History of the testing movement.
116. History of the public school system.
117. Human nature in isolation and association.
118. Humanism in post-renaissance period.
119. Humanistic realism or social materialism.
120. Imitation of good or evil traits by persons to secure prestige.
121. Incentives useful in class management.
122. Incentives as preventatives of disciplinary problems.
123. Individual differences in pupils—physical, mental, and social.

124. Individual needs as met by systems of individual instruction such as Dalton or Winnetka plan.
125. Individuality—tests and measures of.
126. Individual needs discovered by standard tests and results graphed or analyzed.
127. Individual needs and 85 ways to meet them (Mort).
128. Inductive method in science as developed by Bacon.
129. Industrial revolution and rise of science.
130. Influences causing break-down of family and community.
131. Influences of geographical features on character.
132. Instinct theory and criticisms.
133. Interest—how developed and maintained.
134. Junior high school plan—advantages and weaknesses.
135. Kindergarten and nursery methods and schools.
136. Kindergarten: Froebel and Montessori material.
137. Land occupancy as a social factor in rural community.
138. Language errors: their analysis and treatment.
139. Language teaching and meeting individual differences.
140. Language teaching—special psychology of.
141. Laws of association and satisfaction in language teaching.
142. Laws of learning—readiness, exercise, and effect.
143. Learning to know pupils through study of records or their social background.
144. Learning characteristics—trial and success.
145. Learning in relation to improvement in complex functions.
146. Learning curve—construction and use of.
147. Learning by animals and human beings compared.
148. Lesson types—review, drill, inductive, etc.
149. Lesson planning for the large comprehensive units of a course.
150. Lesson planning for the daily unit or smaller part of large unit.
151. Library: organization, control, and support.
152. Living standards in rural community.
153. Local talent development in rural community.
154. Locke's theory of mental discipline.
155. Loss of individualism in complex society.
156. Malthus law of population.
157. Management of first-day routine in teaching.
158. Management theories for class control.
159. Mental Age and the Intelligence Quotient.
160. Marking systems in common use.
161. Mastering the subject matter for student teaching.
162. Material versus mind development: dualism of Descartes, Locke, and others.
163. Mathematics teaching and psychological problems.
164. Mathematics difficulties and how analyzed.
165. Meeting recreational needs through suppression, substitution, or sublimation.
166. Memory and forgetting—nature and training.
167. Mental attitudes as a factor in motivation.
168. Mental hygiene for the teacher.
169. Methods of social adaptation used by differing peoples.
170. Methods used in surveys or community analysis.
171. Medievalism in the history of education.

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172. Methods useful for measuring socialization.
173. Morrison's unit plan of instruction.
174. Motivation of conduct in relation to personality adjustment.
175. Motion pictures as a social factor in rural community.
176. Motivation through use of proper incentives.
177. Motivation of our conduct by dominant human urges.
178. Music: psychology of vocal and instrumental forms.
179. National control of immigration.
180. Nature of institutional competition.
181. Nature and limitations of revolution for changing the social order.
182. Nature study—psychology of.
183. Natural science—teaching and psychology of.
184. Need for consolidation of rural schools.
185. Need for testing and its relation to teaching.
186. Newspaper as a social agency in rural community.
187. New-type test questions: their preparation, use, and scoring.
188. Normal curve—its interpretation and use.
189. Objectives in teaching.
190. Object lesson and laboratory method.
191. Observations of children outside of classroom.
192. Observations of class teaching: preparation for and discussion.
193. Occupation as social service in addition to making a living.
194. Organization of the one- or two-room rural school.
195. Oriental world and education in their folkways.
196. Origin and function of the state.
197. Origin and social value of the family.
198. Outside organizations for local rural community.
199. Orientation activities during Freshman week.
200. Pansophy as an educative program.
201. P. T. A. Meetings—organization and work.
202. Pattern types or mores of society.
203. Percentile scores: uses in scoring tests.
204. Perception: nature of and growth of percepts.
205. Perceptual span and shifts of attention.
206. Perceiving character traits.
207. Personal problems of the teacher in relation to community.
208. Personal traits: their alteration or improvement.
209. Personal traits of the teacher and their measurement.
210. Pestalozzi and his influence on education.
211. Philosophy for rural social organization and control.
212. Physical education teaching and its psychology.
213. Plato: influence and contribution.
214. Play and playground equipment.
215. Practice in taking standard tests.
216. Preparing and writing your philosophy of education.
217. Preparing specific objectives for teaching your subject.
218. Preparing and using a time-study schedule.
219. Preparing practice or drill material for pupils.
220. Preparation of a report on use of tests or related topics.
221. Present tendencies in American secondary education.
222. Principal of the high school—duties and relationships.
223. Principles and problems in administering small school system.
224. Problem method of teaching.

225. Professional improvement of teacher and growth in service.
226. Professional magazines, or other reading for improvement.
227. Professional organizations for teachers.
228. Program for elementary school and how prepared.
229. Program by subjects and time allowances for elementary school.
230. Progressive theory and practice and its limitations.
231. Projects and the project method of teaching.
232. Project teaching—dangers and objections.
233. Project types and examples.
234. Psychology of the learning process.
235. Psychology of the practical arts.
236. Psychological attitudes and reactions of the rural people.
237. Psychology of the social sciences.
238. Punishments—effective and ineffective types.
239. Punishment according to Spencer's natural theory.
240. Pupil profile graph from a battery of tests (Ex. Stanford tests).
241. Pupil rating scales: their use and limitations.
242. Questioning as a part of the teaching process.
243. Questioning: types to use and improvement.
244. Racial differences in character, manner, and institutions.
245. Rating scales, charts, etc., in evaluation of teaching.
246. Reaction hypothesis and receiving mechanism.
247. Reacting mechanism: muscles and glands.
248. Reading rate and factors which influence it.
249. Reading objectives.
250. Recitation: newer plans for its conduct.
251. Recitation aims and plans.
252. Record forms and publicity for pupils.
253. Reliability of test scores.
254. Random sampling and the probable error.
255. Renaissance: the modern world spirit in education.
256. Religious intolerance, sectarian strife, and preventatives.
257. Retardation and acceleration of pupils.
258. Retirement and pension plans for teachers.
259. Reviews and reorganization lessons.
260. Roman contributions to the larger folkways.
261. Purpose and place of routine in classroom management.
262. Routine in its relation to disciplinary control.
263. Rural church as a social agency.
264. Rural community center—nature and organization.
265. Rural economic and social problems.
266. Rural library needs.
267. Rural school pupils: nature and characteristics.
268. Rural school teacher—qualifications and training.
269. Rural-urban migration.
270. School as a social factor in rural community.
271. Science in education: contribution of Spencer and Huxley.
272. Schedule of recitations for high school.
273. School plant: standards and practices for janitor service.
274. School plant: standards for buildings and grounds.
275. Score card for public school buildings.
276. Scoring plans for the new type tests.
277. Seasons as a social factor in rural community.

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278. Sensations and feelings.
279. Social classes, caste, and inequalities.
280. Social control through a balance of various forces.
281. Social decadence through deterioration of land and racial stock.
282. Social movements of the individual into other groups.
283. Socializing the class procedure.
284. Socialized recitation plan and its defects.
285. Socialized recitation types, aims, and values.
286. Socrates: his influence and contribution to education.
287. Sophists: their beliefs and proposals.
288. Spelling: its aims, errors, and psychology.
289. Standard tests in your subject.
290. Standard tests as used for classification or promotion.
291. Standard tests for individual or group diagnosis and a remedial teaching program.
292. Standard tests used as a measure of teaching efficiency.
293. Standardization of rural schools.
294. State authorization and control of public schools.
295. State control over buildings, health, physical welfare, etc.
296. State educational organization, state officer, and board.
297. State certification of teachers.
298. Student teaching field trips: plans for and discussion of.
299. Student teaching: learning to use library aids and professional magazines.
300. Student teaching records made by student.
301. Student teaching hall duty and help in management.
302. Study hall duty.
303. Superintendent of schools: fourfold nature of his work.
304. Supervision and the teacher.
305. Supervising or directing pupils' study or other instructional activities.
306. Supervised study in relation to other types of class management.
307. Supervised study in relation to the assignment.
308. Supervised study methods and difficulties.
309. Teaching pupils to study effectively.
310. Teacher tenure, promotion, and salary.
311. Teaching as a profession.
312. Teachers meetings and committee work.
313. Testing reports based on Freshman tests or others.
314. Testing program planned for a specific situation.
315. Textbook use and misuse.
316. Thinking types and their improvement.
317. Thinking, reasoning, and problem solving.
318. Thinking of a low order—rationalization.
319. Types of motives in reasoning.
320. Thrift for teacher and pupil.
321. Town, township, county and district school organization.
322. Transfer of training theories.
323. Types of class and intra-class social conflicts.
324. Variability measures: standard deviation, and probable error.
325. Visual aids in instruction.
326. Wealth and income as social factors in rural community.
327. Wholesome and unwholesome opposition in society.
328. Jung, Adler, Freud: psychoanalysis.

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3. *Biennial Survey of Education in the United States. Bulletin No. 20, 1931*. Chap. XIV, "Professional Education of Teachers." U. S. Office of Education, Washington, D. C.
4. Bode, B. H. "Determining Principles of Curriculum Construction." *Educational Administration and Supervision*, Vol. XII, No. 4, April 1926, pp. 217-228.
5. Bolton, F. E. "Curricula in University Departments of Education." *School and Society*, Vol. II, No. 50, 1915, pp. 829-841.
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8. Briggs, T. H. *Curriculum Problems*. The Macmillan Co., 1927. A consideration of twenty-seven questions in the organization of an effective curriculum.
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11. Chadsey, C. E. "The Undergraduate Curriculum in Education." *North Central Association Quarterly*, Vol. I, No. 1, June 1926, pp. 149-162.
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14. Class, Edward C. *Prescription and Election in Elementary School Teacher Training Curricula in State Teachers Colleges*. Bureau of Publications, Teachers College, Columbia University, 1931.
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18. Evenden, E. S. "Criteria for the Construction of Teachers College Curricula." *Teachers College Record*, Vol. XXVII, No. 10, June 1926, pp. 882-893. Points out the need for cultural and informational background in addition to other valuable criteria.
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22. Finney, Ross L. "The Education of Educators." *National Education Association Addresses and Proceedings*, Vol. LXXI, 1933, pp. 766-772. The author sees a need for more and wider culture for educators so they may acquaint their students with the main currents of thought.
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PART B

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3. Angell, J. R. "The Duplication in School Work by the College." *School Review*, Vol. XXI, No. 1, Jan. 1913, pp. 1-10. The author shows a needless waste of time for college students who study similar topics as in high school courses.
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30. Judd, C. H. "Teachers Colleges as Centers of Progressive Education." *National Education Association Proceedings*, Vol. 67, 1929, pp. 875-881. Describes the Westfield, Mass., conference plan; also urges more and better training in social science.
31. Judson, H. P. "Waste in Educational Curricula." *School Review*, Vol. XX, Sept. 1912, pp. 433-441.
32. Kelly, F. J. "A Study of the Values Assigned to Courses in Education and Related Fields by 249 High School Teachers and School Administrators in Kansas." *Ninth Yearbook of National Society of College Teachers of Education*, 1920, pp. 3-9.
33. Kelly, F. J. "Report of a Questionnaire Study of Opinions of Alumni of the University of Minnesota Concerning Courses and Methods of Teaching Used with Freshmen and Sophomores." *Sixteenth Yearbook of National Society of College Teachers of Education*, 1928, pp. 1-7. Emphasizes the need for more cultural and broadening courses.
34. Koos, L. V. *The Junior College Movement*. Ginn and Co., 1925. Chap. VIII, "Overlapping in High School and College," pp. 264-312.
35. Krikley, J. A. "Virtues and Defects of Normal School Training as Seen by Graduates of Two, Five, and Ten Years Service." *Educational Administration and Supervision*, Vol. VII, No. 2, Feb. 1921, pp. 103-110. Based on conversation and correspondence with graduates. The common criticism was that the curriculum had too much that does not function, treatment was often superficial and abstract, with an emphasis on method at the expense of content.
36. Kruse, S. A. *A Critical Analysis of Principles of Teaching as a Basic Course in Teacher-Training Curricula*. Contributions to Education, No. 63. Peabody College for Teachers, Nashville, Tenn., 1929. Pp. 160-168 contain a good bibliography.
37. Lockhart, A. V. "Summer Schools." *School and Society*, Vol. XXIV, 1926, pp. 796-798. Criticizes use of so many professional courses and suggests elimination of some.
38. Moffett, M. L. *The Social Background and Activities of Teachers College Students*. Bureau of Publications, Teachers College, Columbia University, 1929.
39. National Survey of the Education of Teachers. "Curricula in Teachers Colleges and Normal Schools." Supplementary Report. U. S. Office of Education, June 1933. 76 pp. mimeograph.
40. O'Brien, F. P. "Employing Student Criticism in Revising Courses in

- Education." *Educational Administration and Supervision*, Vol. XI, No. 5, May 1925, pp. 394-398. Based on 114 replies from former students who evaluated units from the five fields of education.
41. Osburn, W. J. "A Study of the Content of Textbooks in Principles of Teaching." *Educational Administration and Supervision*, Vol. XVII, No. 7, Oct. 1931, pp. 544-551. An exhaustive study of three textbooks in the Principles of Teaching, showing a duplication of less than five per cent. Concludes that titles of texts have little constant meaning. Classifies the material into fourteen types of units and topics.
 42. Osburn, W. J. *Overlappings and Omissions in Our Courses of Study*. Public School Publishing Co., 1928. An analysis of texts in science, English composition, and United States history for elementary school, high school, and college. Concludes there is much unnecessary duplication.
 43. Pease, G. R. "A Graduate Student's Criticism of the College of Education." *School and Society*, Vol. XXVIII, Nov. 10, 1928, pp. 576-579. Summarized by saying poor teaching, organization, and duplication. Suggests three departments; historical-philosophical, educational psychology, and administration.
 44. Pelk, W. E. *The Professional Education of High School Teachers*. The University of Minnesota, Ph.D. thesis, 1930. An intensive analysis of education courses arranged in form of a check list of 816 topics submitted to one hundred alumni. The evaluations were on the basis of five responses: recall, practical value, theoretical value, would omit, treatment given inadequate. A critical discussion of professional content is given and suggestions are offered. This is one of the few thorough and exhaustive studies made in this field.
 45. Peterson, F. *Philosophies of Education Current in the Preparation of Teachers in the United States*. Bureau of Publications, Teachers College, Columbia University, 1931.
 46. Reynolds, O. E. *The Social and Economic Status of College Students*. Bureau of Publications, Teachers College, Columbia University, 1927.
 47. Rohrbach, Q. A. W. "How College Teaching Could Be Made More Interesting, as Viewed by the Student." *Yearbook of National Society of College Teachers of Education*, 1928, pp. 16-23. Among the six suggestions ranking high, the first was an organization of courses to avoid needless overlapping and to stimulate study. Others included better assignments, improved classroom procedure and testing, and desirable personal traits of teachers.
 48. *Rollins College Curriculum Conference, Winter Park, Florida*. John Dewey, chairman. Jan. 1931, p. 40. A student committee reports that the preparation of outlines and syllabi by instructors would be a great aid in study, review, and later use of records.
 49. Rugg, E. U. "What Teachers Colleges Teach." *School Life*, Vol. XVIII, No. 3, pp. 54-57. A part of the National Survey results showing academic and professional subjects by semester hours and percentages.
 50. Rugg, E. U. "What Does the Survey of Teacher Training Institutions Show with Reference to Curriculum Studies?" *Yearbook of American Association of Teachers Colleges*, 1932, pp. 163-169.
 51. Russell, C. "The Westfield Conferences for Young Teachers." *Yearbook of American Association of Teachers Colleges*, IX, 1930, pp. 154-155.
 52. Sangren, P. V. "Reduction of Overlapping in Courses in Education." *Educational Administration and Supervision*, Vol. XVIII, No. 8, Nov. 1932, pp. 601-606. Points out the overlap of topics in textbooks written

- for the same field. Suggests fourteen fields for study with a technique of organization for the courses.
53. Taylor, H. "The College Curriculum and Social Institutions." The writer believes the student should study the home, school, state, church, and vocation.
 54. "Towson, Maryland, Unit Plan." *Educational Administration and Supervision*, Vol. XVI, No. 4, April 1930, pp. 257-296. Describes an interesting plan for the closer coordination of professional subject matter, academic subjects, and student teaching in the organization of units of instruction.
 55. True, A. C. "The Relation of the College Curriculum to Human Life and Work." *School and Society*, Vol. I, No. 25, June 19, 1915, pp. 865-869.
 56. Weeks, H. F., Pickens, H. D., and Raudebush, P. I. "A Comparative Study of Recent Texts in Psychology, Educational Psychology, and Principles of Teaching." *Journal of Educational Psychology*, Vol. XVII, 1926, p. 577. The study shows an overlapping of more than fifty per cent in these three fields. This was determined by a count of the number of pages given to each of G. Watson's fifteen topics for educational psychology.
 57. Wilson, G. M. "Uniform Nomenclature for College Courses in Education." *Educational Review*, Vol. LX, Sept. 1920, pp. 150-155. A committee report suggesting a plan for overcoming the confusion of titles and content. Suggests three divisions with subtitles: historical courses, theoretical courses, and practical courses.
 58. Worcester, D. A. "Twice-Told Tales or Tautologous Teaching in Higher Education." *Educational Administration and Supervision*, Vol. XII, No. 2, Feb. 1926, pp. 73-78. The final examination was given both before and at the end of a course in educational psychology. Results indicated a wide range of knowledge and understanding from slight acquaintance to sufficient understanding to render questionable the value of the course for the student.

VITA

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During the World War, he enlisted and served from June 25 till December 17, 1918. A large part of this time was spent at the Bandmasters' Training School at Carnegie Institute, Pittsburgh, Pennsylvania.

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His experience includes ten years of high school teaching of mathematics and science with band and orchestra work. With the exception of one year at Twin Falls, Idaho, and two years at Ottumwa, Iowa, this time was spent in Illinois high schools. The year 1919-20 was spent as science assistant at Western Illinois State Teachers College, Macomb; from 1926-31 he was assistant in the Department of Education in the same college.

Unpublished Master's thesis: "A Comparative Study of Four Factors in Holding Class Group Attention." University of Chicago, 1925.